

Report on Language Lab, Narajole Raj College

Title:	Language Lab, Narajole Raj College
Date:	07.03.2020 (date of commencement)
Duration of the programme:	3 months from March 2020 to June 2020
Time of the programme:	Saturday (11:00 – 13:15 hrs)
No. of participants:	50
Name of mentor / instructor:	Pragna Paramita Mondal, Assistant Professor, Dept. of English, Narajole Raj College
Activity:	See attached module
Attendance of teachers and students:	Attendance sheet attached
Necessity & Description of the programme:	<p>It is an accepted fact that English speaking skills are very useful in creating career opportunities. Narajole Raj College is based in the rural area and students here have tremendous potential and commendable discipline-specific knowledge but lack public exposure and confidence. The Language Lab initiative is an attempt to develop their public personality, to enhance their language proficiency and to train them to become successful professionals with good communication skills. To make the language learning process easy and interesting, a Web Assisted Language Laboratory (WALL) facility is made available for students. With the help of web-based resources accessed through the BBC Learning English website (https://www.bbc.co.uk/learningenglish/), the students are assisted in polishing their listening, speaking and comprehension skills. The use of headphones, computers and the electronic medium stimulates the learners to increase their linguistic aptitude and grasp the lessons easily and quickly.</p>
Outcome of the programme:	<p>The programme is aimed at improving the vocabulary, pronunciation, accent, stress and other phonetic aspects of English language speaking. Students are to be presented with a Course Completion Certificate (CCC) at the end of 3 months upon evaluating their performance through a technical assessment.</p> <p>The Language Lab sessions began on 7 March 2020 but the programme was interrupted due to the COVID-19 pandemic. The two sessions that were conducted on the commencement day were very successful. Students were very keen on learning to conduct effective communication at the general and public level. The students participated in the interactive drills that generated a lot of enthusiasm and confidence in them.</p>
Future plan:	Since the Language Lab sessions require infrastructural support and are meant to be interactive, classes would resume once the physical presence of students at the Language Lab can be ensured.





NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade) Government Aided College
NARAJOLE: PASCHIM MEDINIPUR: PIN-721211



Language Lab Class Register

Class 1
Date: 07-03-2020
Attendance Sheet: Group A

Sl. No.	Name	Department	Machine No.
1.	Amindya Sunder Chakraborty	Zoology	
2.	Koushik Pattanayak	Philosophy	
3.	Souvik Set	Zoology	
4.	Suman Samanta	Geography	
5.	Suvarn Maiti	English	
6.	Ruhani Bhattacharya	English	
7.	Shreyosi Adhikari	English	
8.	Susmita Maity	English	
9.	Shreya Mondal	Geography	
10.	Sneha Das	English	
11.	Partha Sarathi Nayak.	Zoology.	
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Language Lab Class Register

Class 1

Date: 07-03-2020

Attendance Sheet: Group B

Sl. No.	Name	Department	Machine No.
1.	Tayel Bheunia	English	
2.	Manasi Adak	English	
3.	Minakshi Jana	English	
4.	Saikat Jana	Botany	
5.	Koushik Pan	Botany	
6.	Keya Khamrai	English	
7.	Sneha Nayak	English	
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15/3/20



Language Lab session with Group A, Narajole Raj College, 7 March 2020



15/03/20
NARAJOLE RAJ COLLEGE
NARAJOLE, DIST. NADIA, W.B.



Language Lab session with Group B, Narajole Raj College, 7 March 2020



15/03/20
NARAJOLE RAJ COLLEGE
NARAJOLE, DIST. NADIA, W.B.



Summary report of Asis Acharya programme-

Due to Covid pandemic situation the schools, colleges were remain closed for a long period for safety and security of all concerned. The students were taught through online mode. First time in their life, they will have to face online exam. So, in this context, Green Club of our college arranged webinar on 6th May, 2020 on “

করোনা আবহ পরীক্ষা প্রস্তুত- হবে না বিয়ত্ত মুক্ত ও জোর রাখলে মনে

” as per advice of Dr. Anupam Parua, Principal of college. A brief report is enumerated below: -

Rationale of the webinar- As advised by the Principal, Green Club of college conducted the webinar on 06.05.2020 to create awareness amongst the students as they will appear first time online examination without getting any guidance of teachers. The objective of the webinar was to create awareness how to save lives from covid pandemic situation and what precautionary measures are to be followed by individual members to serve themselves and to appear first time online examination without taking any stress, tension, and fear.

Plan of work- Respected members decided to invite a resource person preferably a psychiatrist, having profound knowledge and experience in medical science and psychology and who can counsel us how we can safeguard ourselves from different diseases including covid. As a result, we invited Dr. Asis Acharya attached to Midnapur Medical College and Hospital.

Schedule of the seminar- The members of Green Club decided to hold the webinar on 06.05.2020 after discussion with Dr. Acharya.

Brief Bio-data of the resource person- Qualification of Dr. Acharya is MBBS, DPM. He was previously attached to Midnapur Medical College and Hospital and Pavlov Hospital, Kolkata.

Outcome of the webinar- Dr. Acharya in his speech highlighted the following issues in detail.

1. Firstly, all of us have to be steady in this pandemic.
2. All students have to face their first time online exam steadily and freely as their other activities.
3. Every teacher should mentally stand next to the students like a friend, philosopher and guide.

Students' feedback- The students became very happy and expressed thanks to resource person (Dr. Acharya), principal and other teachers who arranged the webinar and advised them.



মাত্ৰাভেদ্যমে ষাৎহু ষংজেতহু



নাড়াজোল : পশ্চিম মেদিনীপুর : ৭২১২১১



কনোনা আবেহে পরীক্ষা প্রস্তুতি-মবে না বিস্মিত 'মুক্ত ও জোর' রাখলে মনো

বক্তা : ডাঃ আশীষ আচার্য

প্রাক্তন বরিষ্ঠ মনোরোগ বিশেষজ্ঞ (পশ্চিমবঙ্গ স্বাস্থ্য সেবা)



মাধ্যম : ভিডিও কনফারেন্স

সময় : বিকাল - ৪(চার) ঘটিকা

তারিখ : ০৬/০৫/২০২০ (বুধবার)



আয়োজক : শ্রীণন্দাব, নাড়াজোল রাজ কলেজ

পরিচালনায় : অধ্যাপিকা অপিতা চক্রবর্তী ও অধ্যাপক বরুণ রাউত

পৃষ্ঠপোষকতায় - অধ্যাপক ডঃ অনুপম পড়ুয়া, অধ্যক্ষ



বক্তা :- ডাঃ আশীষ আচার্য

M.B.B.S(CAL),D.I.H(CAL),D.P.M(CAL)

- প্রাক্তন বরিষ্ঠ মনোরোগ বিশেষজ্ঞ
(পশ্চিমবঙ্গ স্বাস্থ্য সেবা)





Estd.-1966

ପୂର୍ବପୋଷକତାୟ

ଅଧ୍ୟାପକ ଡ. ଅନୁପମ ପଣ୍ଡା
ଅଧ୍ୟକ୍ଷ, ନାଡ଼ାଞ୍ଜୋଳ ରାଜ କଲେଜ





ESTD. 1966

আয়োজনে : গ্রীন ক্লাব ন্যাডাজোল বাজ কলেজ





Estd.-1966

পরিচালনায় :- অধ্যাপিকা :- অর্পিতা চক্রবর্তী অধ্যাপক :- বরুণ রাউত



Summary report of national seminar-

Due to Covid pandemic situation the schools, colleges were remain closed for a long period for safety and security of all concerned. The students were taught through online mode. Green Club of our college arranged a national level webinar on 16th June,2020 on “Covid 19 Pandemic, A Battle We have to Win ” as per advice of Dr. Anupam Parua, Principal of college. A brief report is enumerated below: -

Rationale of the webinar- As advised by the Principal, Green Club of college conducted the webinar on 16.06.2020 to create awareness amongst the students, faculties, and members of the other colleges too on the following issues: -

1. Three different topics were discussed in the webinar by three resource persons based on the present pandemic conditions.

The objective of the webinar was to create awareness how to save lives from covid pandemic situation and what precautionary measures are to be followed by individual members to save themselves.

Plan of work- Three different topics were discussed in the seminar by three resources persons

4. Topic A) – “How to Combat Against Covid-19”

Resource person – Dr. Kalimujjaman Molla

Resident: MD (Medicine), Department of Medicine,
Midnapore Medical College & Hospital

Topic B) – “Significance of Microbiological Knowledge and Awareness in 21st Century with Special Reference to Covid-19”

Resource Person - Dr. Pradeep Kumar Das Mohapatra

(M.Sc., PhD, FSAB), Associate Professor & Head,

Department of Microbiology &

Environmental Conservation Centre, Raigunj University

Uttar Dinajpur, Rajgunj – 733134

Topic C) – “Covid-19 and its Impact on Environment”

Resource Person - Dr. Prasanjit Mukherjee

(PhD, DSc, FBS, FEHT, FAPT)

HOD, Botany, KKM College, Pakur, Jharkhand (India)

Councilor, Indian Botanical Society (IBS)

Executive Editor, The Biobrio



The target group of the seminar was faculties and students of our and other colleges. Technology Committee of the College was extend all support to smooth conduct of the National Seminar.

Schedule of the seminar- The members of Green Club decided to hold the webinar on 16.06.2020 after discussion with the resource persons.

Outcome of the webinar- Three resource persons in their speech highlighted the present scenario of pandemic situation, how to combat the stage by each of us, how to save civilization scientifically and fearlessly.

Students' feedback- The students became very happy and expressed thanks to resource persons, principal and other teachers who arranged the webinar and advised them.





NARAJOLE RAJ COLLEGE
(NAAC Accredited 'B' Grade Govt.-Aided College)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



One Day National Level Webinar on "COVID -19 PANDEMIC, A BATTLE WE HAVE TO WIN" Organised by Green Club, Narajole Raj College

Dated: 16.06.2020

10:00 AM to 10:15 AM: Joining the webinar through Google Meet app with the link already Provided

INAUGURAL SESSION

10:15 AM to 10:20 AM: Programme will start with 'Vedic Chanting'

Prof. Anustup Chatterjee

HoD, Dept of Sanskrit, Narajole Raj College

10:20 AM to 10:30 AM: Introductory address highlighting about the present pandemic situation

(Prof.) Dr. Anupam Parua

Principal, Narajole Raj College

10:30 AM to 10:40 AM: Welcome Address

Dr. Poulami Adhikary

Assistant Professor, Dept. of Zoology, Narajole Raj College

TECHNICAL SESSION

10:40 AM to 11:10 AM: Discussion on the topic

" HOW TO COMBAT AGAINST COVID 19"

Dr. Kalimujjaman Molla

Resident: MD (Medicine)

Department of Medicine

Midnapore Medical College & Hospital

11:10 AM to 11:50 AM: Discussion on the topic

" SIGNIFICANCE OF MICROBIOLOGICAL KNOWLEDGE AND AWARENESS IN 21ST CENTURY WITH SPECIAL REFERENCE TO COVID-19"

Dr. Pradeep Kr. Das Mohapatra (M.Sc., Ph.D., FSAB)

Associate Professor and Head Department of Microbiology & Director Environmental Conservation Centre Raiganj University, Uttar Dinajpur, Raiganj-733134

11:50 AM to 12:15 PM: Discussion on the topic

" COVID -19 AND ITS IMPACT ON ENVIRONMENT"

Dr. Prasanjit Mukherjee (Ph.D., D.Sc., FBS, FEHT, FAPT)

HoD, Botany, KKM College

Pakur, Jharkhand (India)

Councilor, Indian Botanical Society (IBS)

Executive Editor – The Biobrio





One Day National Level Webinar on " COVID -19 PANDEMIC, A BATTLE WE HAVE TO WIN" Organised by Green Club, Narajole Raj College

INTERACTIVE SESSION

12:15 PM to 12:30 PM: Interaction between Participants and Resource Persons

VALEDICTORY SESSION

12:30 PM to 12:40 PM: Presidential Address

(Prof.) Dr. Anupam Parua
Principal, Narajole Raj College

12:40 PM to 12:50 PM: Vote of Thanks

Dr. Nilanjana Bhattacharya
Co-Ordinator, IQAC, Narajole Raj College

OVERALL SUPERVISION

- **Prof. Arpita Chakraborty**
Govt. Approved PTT, Department of Botany, Narajole Raj College
- **Prof. Asis Bhattacharya**
Govt. Approved PTT, Department of Sanskrit, Narajole Raj College
- **Dr. Shreyasi Jana**
Assistant Professor, Department of Mathematics, Narajole Raj College
- **Prof. Bangamoti Hansda**
Assistant Professor, Department of Botany, Narajole Raj College
- **Dr. Parimal Dua**
Assistant Professor, Department of Physiology, Narajole Raj College
- **Prof. Goutam Jana**
Guest Lecturer, Department of Bengali, Narajole Raj College

TECHNICAL SUPPORT

Dr. SK Mohammad Aziz & Prof. Barun Rout
Joint Convenors, Technology Sub-Committee
Narajole Raj College

(Certificate of Participation will be forwarded only to the participating students, teachers and other participants who have registered in the webinar to the e-mail address provided in the registration document. Only registration in the webinar and not attending it / joining in it does not confer right to obtain Certificate of Participation.)



National Level Webinar

On

"Covid 19 Pandemic, A Battle We Have To Win"

Organized by: Green Club, Narajole Raj College,
Narajole, Paschim Medinipur : 721211

CHIEF PATRON

Dr. Anupam Parua

*Principal,
Narajole Raj College*

Under Guidance of

Dr. Nilanjana Bhattacharyya

*Co – Ordinator , IQAC
Narajole Raj College*

RESOURCE PERSONS

Dr. Pradeep Kr. Das Mohapatra

*Head, Dept. of Microbiology,
Director, Environment Conservation
Centre
Raiganj University*

Dr. Prasanjit Mukherjee

*Head, Dept. of Botany,
KKM College, Pakur, Jharkhand,
Councilor, Indian Botanical Society(IBS),
Executive Editor – The Biobrio*

Dr. Kalimujjaman Molla

*Resident, MD(Medicine)
Department of Medicine,
Midnapore Medical College & Hospital*

Convenor

Prof. Arpita Chakraborty

*Green Club,
Narajole Raj College*

Date

16/06/2020

Time

10.00A.M.

Google Meet App

*The Link to join
the meeting will be
provided to the
participants via
WhatsApp Only just
before the time of
Webinar*

Technical Support :

Dr. Sk Md. Aziz

&

Prof. Barun Rout

*Joint Convenor,
Technology Sub-Committee
Narajole Raj College*



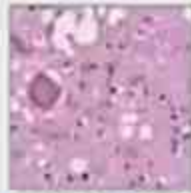
Spongiform Encephalopathies

Caused by altered protein:

- Mutation in normal PrP^C gene (sporadic CJD), or
- contact with the abnormal PrP^{Sc} protein



Brain shrinkage and deterioration occurs rapidly



Brain section showing spongiform pathology characteristic of Creutzfeldt-Jakob

#ADAM





Dr. Prasant Mukherjee
Principal
Sri Sri Chaitanya Mahaprabhu
Vedika
Kolkata





Pradeep Das Mohapatra

15/11/20
[Signature]
[Circular Stamp]



Dr. Kalimujarran Molla

Dr. Kalimujarran Molla
15/07/2024





15/07/20
Anupam Parua
15/07/20





15/11/24
Digitally signed by
Ananta Chandra
15/11/24





Nilanjana Bhattacharyay Narajole Raj College

Handwritten signature and a circular stamp.



NARAJOLE RAJ COLLEGE

(NAAC Accredited B Grade Govt. Aided College)

NARAJOLE: PASCHIM MEDINIPUR: PIN-721211

Affiliated to Vidyasagar University



Investor Awareness Program

Investor Awareness Program held on the occasion of WORLD INVESTOR WEEK from 23.11.2020 to 29.11.2020

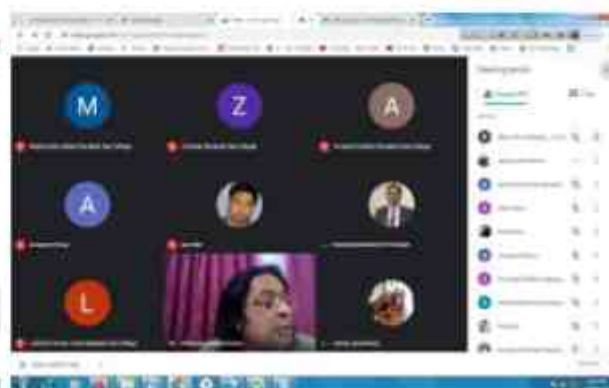
Organized by Career Counselling Cell under the guidance of IQAC of Narajole Raj College

Date of the program: 28.11.2020

EMINENT SPEAKER & FINANCIAL WIZARD RAGHUNANDAN PATTANAİK NATIONAL TRAINER



- Raghunandan Pattanaik, Post Graduate in Management- HRD, working industry for 25 years in Banking, Financial Services & Trainer Belt Certification- USA.
- Employee Training function for HDFC Bank, Axis Bank, Punjab National Bank, Gramya Bank, State Cooperative Bank, Aditya Birla Capital, Tata Capital, Life Insurance Corporation of India.
- National Payment Corporation of India (Digital Banking support to Indian Oil Corporation, BPCL, OPTCL, Urban Development Agency, Govt. of Odisha and Regional Rural Banks in Odisha.
- Specialised Training Program for employees of TATA Steel, Indian Oil Corporation, OPTCL, Reliance, CK Birla Groups.
- Training Program for SBI MF, UTI MF, ICICI MF, IIFL MF, L & T MF, BSE, NSE.
- Certified Career Counsellor for State Govt. Universities & Central Universities of India.
- Trained more than 500000 employees in India.
- Trained more than 150+ Investor Awareness Program for Faculty, Corporate & Govt. Employees of India.



Handwritten signature and date: 15/11/20



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NARAJOLE RAJ COLLEGE
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NARAJOLE: PASCHIM MEDINIPUR: PIN-721211
CAREER COUNSELLING CELL
Report on



One Day State Level Webinar on "Career Scope in Post Covid India"

on July 10, 2021.

Date: 10.07.2021

Online Platform: Google Meet and YouTube live streaming

Name of the Resource Persons: Dr. Sourabh Bhattacharya

Professor, Haldia Institute of Technology
And

Dr. Debolina Das

Assistant Professor in Physics, Haldia Government College

On 10th July 2021, the Career Counseling Cell and IQAC of Narajole Raj College organized a State level Webinar on “**Career Scope in Post Covid India**” for UG and PG students. We have invited **Dr. Sourabh Bhattacharya**, Professor, Haldia Institute of Technology and **Dr. Debolina Das**, assistant Professor in Physics, Haldia Government College as a resource person of the Webinar. The Webinar began at 4:00pm in Google meet platform and also through live streaming in Narajole Raj College official YouTube channel. Total 100 participant including organizing committee and resource persons were present in Google meet platform and more than 500 participants were in YouTube live streaming. The programme began with a warm introductory address by Dr. Sk Mohammad Aziz, Convener of the Career Counselling Cell, Narajole Raj College, followed by Inaugurator’s address by our respected Principal Dr. Anupam Parua. Dr. Parua addressed the students and the team and briefly discussed the purpose and aim of conducting this Webinar in the College. He focused on the issue of ‘employability’ and emphasized the need for personality development in the current job market. The technical session of the Webinar then commenced. Dr. Debolina Das, the 1st speaker of this session, introduced the key concepts of “Soft skills development and Career opportunities” and motivated the participants with his interesting PowerPoint presentation. In the final technical session Dr. Sourabh Bhattacharya elaborately discussed on “Entrepreneurship in the post covid world” through his nice PowerPoint presentation. After that there was a short interactive session with the students. In the valedictory session our Principal delivered the presidential address followed by vote of thanks by Dr. Uttam Kr. Kanp. The Webinar was quite successful and the students were very enthusiastic about everything that they learnt on personality development and job eligibility in the sessions. Participants who filled the feedback form were awarded an E-certificate by the organizers and the workshop ended on a note of optimism.





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CAREER COUNSELLING CELL



Brochure of the Programme:

<p>REGISTRATION LINK https://forms.gle/1234567890</p> <p>Registration will close at 7 a.m. on 18/07/2023.</p> <p>Procedure of Registration: Please visit on the above mentioned Registration Link. After submission of Registration Form, a WhatsApp Group Link will be displayed on the screen. Please visit on the WhatsApp Group Link to join in the Webinar for further communication. All the information regarding the Webinar will be provided to the participants via WhatsApp Group chat.</p> <p>Procedure of Joining in Webinar: The Link to join the Webinar will be provided to the participants via WhatsApp Group chat only after the Registration.</p> <p>YouTube link for Live-streaming: https://youtube.com/NarajoleRajCollegeOfficial</p> <p>Subscribe Our YouTube Channel for more updates</p> <p>Follow our facebook page: https://www.facebook.com/NarajoleRajCollegeOfficial</p> <p style="text-align: center;">Narajole Raj College NAAC Accredited B Grade Govt. Aided College Narajole, Paschim Medinipur, Pin-721211 e-mail: narajolerajcollege@gmail.com http://www.narajolerajcollege.ac.in/</p>	<p style="text-align: center;">CHIEF PATRON</p> <p style="text-align: center;">Dr. Anupam Parua Principal Narajole Raj College</p> <div style="text-align: center;"> </div> <p style="text-align: center; background-color: #90EE90; padding: 5px;">Invited Speaker</p> <div style="text-align: center;"> </div> <p style="text-align: center;">DR. SOLAJANON BHOWMIK Professor, Mulla Institute of Technology (NAAC A Grade, WBCT, Accredited, UGC Approved Institution) India's Leading Topper Institute in Entrepreneurship Topic: "Entrepreneurship in the Post Covid World"</p> <div style="text-align: center;"> </div> <p style="text-align: center;">DR. ANUBHUTI DAS Assistant Professor of English, Mulla Government College, Programme Coordinator, "The University Project" Topic: "Soft Skills Development and Career Opportunities"</p>	<p style="text-align: center;">Narajole Raj College (NAAC Accredited B Grade Govt. Aided College) Narajole, Paschim Medinipur, Pin-721211 e-mail: narajolerajcollege@gmail.com</p> <p style="text-align: center;">One-day Webinar on "CAREER SCOPE IN POST COVID WORLD" Organized by Career Counselling Cell of IQAC Narajole Raj College</p> <p style="text-align: center; color: red;">Invitation</p> <p>Dear all, We are pleased to inform you that the Career Counselling Cell of IQAC, Narajole Raj College is going to organize a One-Day Webinar on "CAREER SCOPE IN POST COVID WORLD" on 18th July, 2023 from 6:00PM - 8:00PM. We sincerely solicit your active association in this Webinar. With warm regards,</p> <p style="display: flex; justify-content: space-between;"> Dr. Anupam Parua Principal Narajole Raj College Dr. M. Muhammad Aziz Coordinator Career Counselling Cell Narajole Raj College </p> <p style="text-align: center;">Dr. Nilanjana Bhattacharyya Co-ordinator, IQAC Narajole Raj College</p>
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<p style="text-align: center; background-color: #90EE90; padding: 5px;">TECHNICAL SUPPORT</p> <p style="text-align: center;">Technology Cell Committee Narajole Raj College Joint Convenor: Dr. M. Muhammad Aziz Prof. Sumit Banerjee e-mail: technology@narajolerajcollege.ac.in</p> <div style="text-align: center;"> </div> <p style="text-align: center; background-color: #90EE90; padding: 5px;">Webinar Related Queries</p> <p style="text-align: center;">Dr. M. Muhammad Aziz Contact No. 992325417 e-mail: mdaziz@narajolerajcollege.ac.in</p> <p style="text-align: center; font-size: 2em; font-weight: bold; letter-spacing: 5px;">CAREER</p>	<p style="text-align: center;">Certificate of Participation will be forwarded to the e-mail address provided in the registration document only to participating students, teachers, and other participants who register and attend the webinar for the complete duration. Mere registration and non-attendance will not confer right to obtain Certificate of Participation.</p> <div style="text-align: center;"> </div> <p style="text-align: center; background-color: #ADD8E6; padding: 5px;">CAREER COUNSELLING</p>	<p style="text-align: center; background-color: #90EE90; padding: 5px;">Webinar Organizing Committee</p> <p style="text-align: center;">President - Dr. Anupam Parua, Principal, Narajole Raj College Coordinator - Dr. M. Muhammad Aziz Member - Prof. Sumit Banerjee Member - Prof. Nilanjana Bhattacharyya</p> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div>
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15/7/23



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CAREER COUNSELLING CELL



One Day State Level Webinar on "Career Scope in Post Covid India"

on July 10, 2021.

Program Details

10.07.2021

03-45 PM to 04-00 PM: Joining the webinar through
Google Meet App with the link already provided

INAUGURAL SESSION

04-00 PM to 04-10 PM: Introductory Address
Dr. Sk Mohammad Aziz
Convenor, Career Counselling Cell, Narajole Raj College

04-10 PM to 04-20 PM: Inaugurator's Address
Dr. Anupam Parua
Principal, Narajole Raj College

TECHNICAL SESSION

04-20 PM to 04-50 PM: Dr. Debolina Das
Assistant Professor in Physics
Haldia Government College

Topic of Discussion: "Soft Skills Development and career Opportunities"

04-50 PM to 05-00 PM: Interaction

05-00 PM to 05-40 PM: Dr. Sourabh Bhattacharya
Professor
Haldia Institute of Technology

Topic of Discussion: "Entrepreneurship in the Post Covid World"

05-40 PM to 05-50 PM: Interaction





NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Govt. – Aided College)
NARAJOLE: PASCHIM MEDINIPUR: PIN-721211
CAREER COUNSELLING CELL



One Day State Level Webinar on "Career Scope in Post Covid India"

on July 10, 2021.

The Webinar will be co-ordinated by Dr. Poulami Adhikary Mukherjee, Assistant Professor in Zoology, Narajole Raj College

VALEDICTORY SESSION

05-50 PM to 06-00 PM: Presidential Address
Dr. Anupam Parua
Principal, Narajole Raj College

06-00 PM to 06-10 PM: Vote of Thanks
Dr. Uttam Kumar Kanp
Assistant Professor in Botany, Narajole Raj College

(Certificate of Participation will be provided to registered participants on receipt of their response against Google Feedback Form to be shared any time during the live coverage of the programme in chat boxes of both the Google Meet and the Official YouTube Live Channel (<https://www.youtube.com/NarajoleRajCollegeOfficial>) of the College. No request for Certificate of Participation will be entertained for unregistered participants or for registered participants who fail to response to Google Feedback Form.)

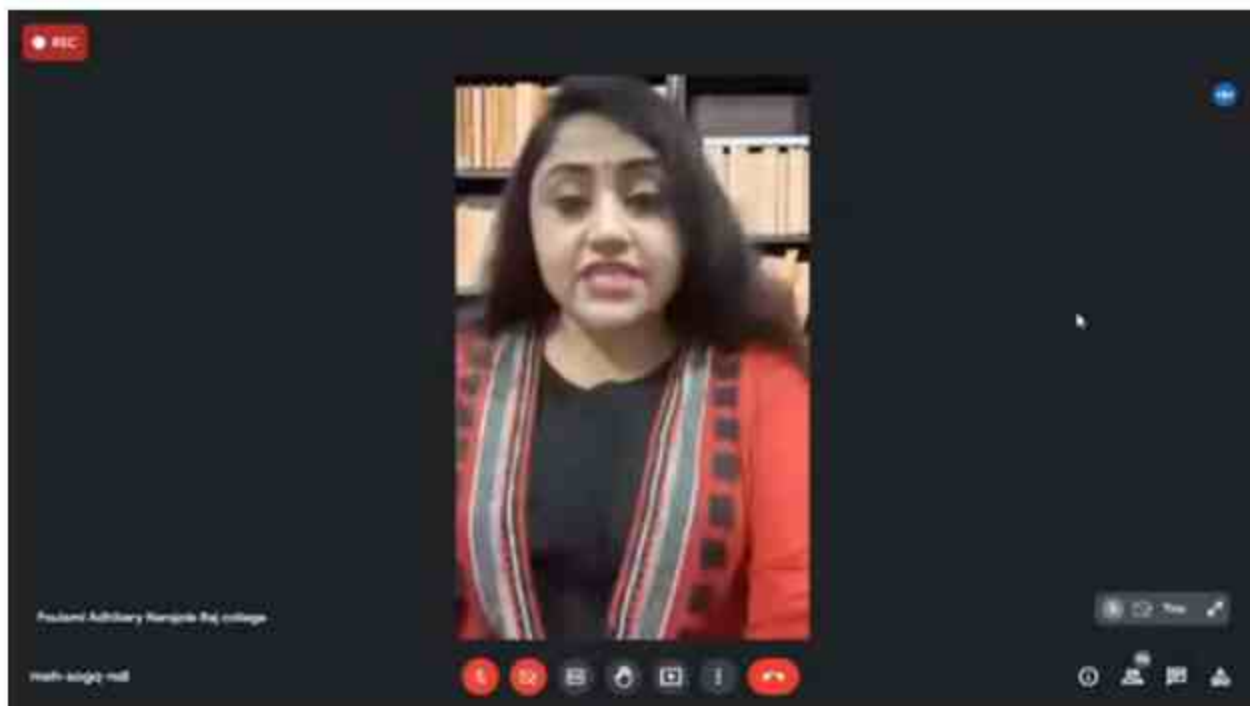




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Selected Screenshot of the Programme:





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CAREER COUNSELLING CELL



One-Day Webinar on "GAREER SCOPE IN POST COVID INDIA"

Task #1



- Think Positive
- Be Patient
- Don't compare

Go back

40:57 / 3:00:38

One-Day Webinar on "GAREER SCOPE IN POST COVID INDIA"

Task #2



- Problem solving skill: Academics & Industry
- Digital skill: Online Jobs
- Reading skill: Government Jobs

SWOT analysis

59:46 / 3:00:38

15/11/20





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CAREER COUNSELLING CELL



One-Day Webinar on "CAREER SCOPE IN POST COVID INDIA"

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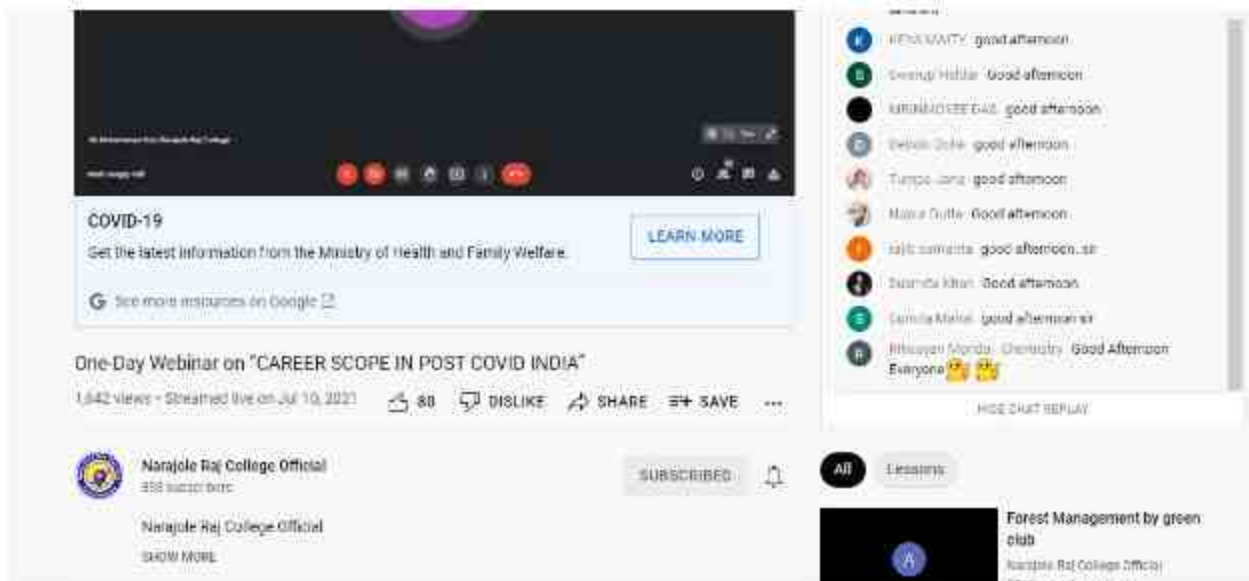
One-Day Webinar on "CAREER SCOPE IN POST COVID INDIA"

2:47:06 / 3:00:38

15/07/24
NARAJOLE RAJ COLLEGE
PASCHIM MEDINIPUR



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Sample of E-certificate provided to the participants:



Sk Mohammad Aziz

Dr. Sk Mohammad Aziz
Convener, Career Counselling Cell
Narajole Raj College, Narajole,
Paschim Medinipur- 721211(W.B.)



Narajole Raj College

(NAAC Accredited B Grade Govt. - Aided College)

Narajole :: Paschim Medinipur :: 721211



Certificate of Participation in Webinar

Organized By: Career Counselling Cell

Certified that Dr. Tapanendu Kamilya, Assistant Professor, Narajole Raj College participated in One-day Webinar on "Career Scope in Post Covid India" on 10/07/2021 organized by Career Counselling Cell, Narajole Raj College under the guidance of I.Q.A.C., Narajole Raj College.

Dr. Anupam Parua
Principal
Narajole Raj College

Dr. Sourabh Bhattacharya
Professor
Haldia Institute of Technology

Dr. Nilanjana Bhattacharyya
Coordinator, I.Q.A.C.
Narajole Raj College

Dr. Sk. Mohammad Aziz
Convener
Career Counselling Cell
Narajole Raj College

Dated: 10/07/2021

Summary report of an Initiative to normalize college campus life-

Due to Covid pandemic situation the schools, colleges were remain closed for a long period of about two and half years duration for safety and security of all concerned. The students were taught through online mode. Green Club of our college arranged webinar on 15th November,2021 on "An initiative to normalize college campus life" as per advice of Dr. Anupam Parua, Principal of college. A brief report is enumerated below: -

Rationale of the webinar- As advised by the Principal, Green Club of college conducted the webinar on 15.11.2021 to create awareness amongst the students, faculties and members of the staff about the following: -

- a) What type of initiative can be taken in the class rooms, Principal's cabin, office rooms, departmental rooms, laboratory rooms including furniture and fixtures, instruments etc. to make the rooms clean and free from germs.
- b) What type of initiative can be taken to make the college campus and adjoining area clean and germ free.

The objective of the webinar was to create awareness how to save lives from covid pandemic situation and what precautionary measures are to be followed by individual members to serve themselves.

Plan of work- Respected members decided to invite a resource person preferably a doctor, having profound knowledge and experience in medical science and who can counsel us how we can safeguard ourselves from different diseases including covid. As a result, we invited Dr. Kalimujjaman Molla attached to Midnapur Medical College and Hospital.

Schedule of the seminar- The members of Green Club decided to hold the webinar on 15.11.2021 after discussion with Dr.Molla.

Brief Bio-data of the resource person- Qualification of Dr. Molla is MBBS, MD(Medicine) and attached to Midnapur Medical College and Hospital.

Outcome of the webinar- Dr. Molla in his speech highlighted the following issues in detail.

- a) The classrooms, office rooms, teacher's room, laboratory rooms, Principal's cabin, departmental staff rooms are to be cleaned with soap water, detartgents very carefully twice in every week. Then the rooms are to be further cleaned simultaneously.



- b) All the students, faculty members of the staff and visitors are to clean their hands with soap water and then by sanitizers frequently. The instruments are also to be cleaned by sanitizers. Adequate arrangement for cleaning has to be kept in each department and each room.
- c) Dr. Molla also advised all concerned to keep the campus clean. The campus must be *Parthenium* free also.
- d) He also advised us to take advice of doctor when anybody attacks by fever and other symptoms.

Students' feedback- The students became very happy and expressed thanks to resource person (Dr. Molla), principal and other teachers who arranged the webinar and advised them.





A Counselling Programme on

AN INITIATIVE TO NORMALIZE COLLEGE CAMPUS LIFE

Organized by

Green Club, Narajole Raj College

Narajole, Paschim Medinipur, Pin - 721211

Resource Person

Dr. Kalimujjaman Molla

MBBS (WBUHS); MD (Medicine); Gold Medelst, Fellowship in Diabetes (Boston University, USA)
Consultant Physician. Lecturer at Midnapore Medical College & Hospital, Ex-lecturer; Calcutta National Medical College & Hospital

Under Guidance of

Dr. Anupam Parua

Principal
Narajole Raj College

Dr. Nilanjana Bhattacharyya

Co-Ordinator, IQAC
Narajole Raj College

Convenor

Prof. Arpita Chakraborty

Green Club
Narajole Raj College

Date: 15.11.2021 Time : 4.00 p.m.

via Google Meet App



REC



Ananya








Technology Sub-...






Philosophy Naraj...



You



Arpita 85 others





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← rgg-itdv-cnf ▶



REC



Arpita Chakraborty

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NARAJOLE: PASCHIM MEDINIPUR: PIN-721211



CONSTITUTION OF YOGA CELL TO RUN YOGA CENTRE
(w.e.f. June 07, 2021)

- Dr. Anupam Parua – Principal and ex-officio Chairperson
- Prof. Nandita Bhakat – Assistant Professor, Dept. of Botany as **Jt. Convenor**
- Prof. Bholanath Mahato – Assistant Professor, Dept. of Philosophy as **Jt. Convenor**
- Dr. Ranajit Kumar Khalua – Assistant Professor & Head, Dept. of Zoology as **Member**
- Dr. Atanu Nanda - Assistant Professor & Head, Dept. of Physical Education as **Member**
- Prof. Partha Kumar Manna – State Aided College Teacher, Dept. of Physical Education as **Member**

Signature
15/07/21

Capability enhancement courses: Yoga and Meditation.

The capability enhancement courses: Yoga and Meditation is carried out by the Yoga centre of the Narajole Raj College.

The interested students were enrolled in online platform.

A syllabus was assigned to them. The courses were conducted through online mode.

Classes were taken from 12.11.2021. to 23.11.2021.

A total of 62 students were successfully enrolled in the class.

The name of the resource persons were as follows:

Prof.Nandita Bhakat.

Prof.Bholanath Mahato.

Dr.Atanu Nanda.

Outcome & necessity of the program:

- To make the students aware the benefits of Yoga and Meditation.
- To let the students know to the different pranayamas.
- To increase the body flexibility and enhance the mental concentration.
- To culture a habit of regular Yoga and Meditation practice.
- To add up to the knowledge of the students, the benefits and advantages of different yogic poses and aasanas.

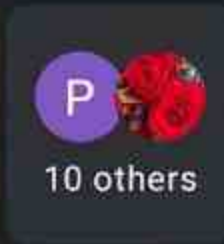


Nandita Bhakat
Joint Convenor
Yoga Centre
Narajole Raj College

← nhc-gvaf-jvi ▶



🔒 Santa Jana



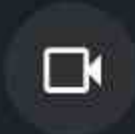
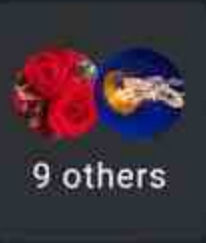
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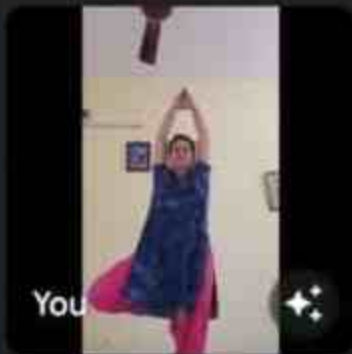
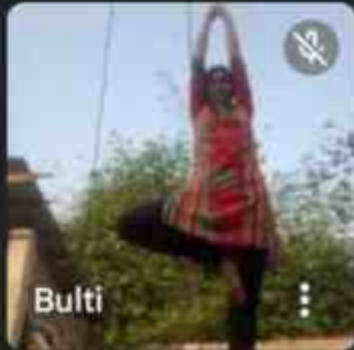
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Santa Jana



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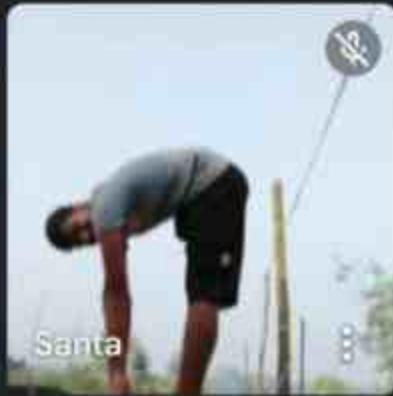
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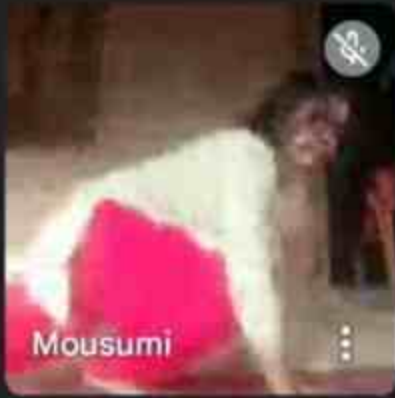
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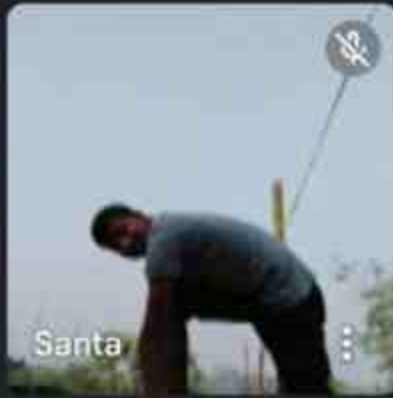
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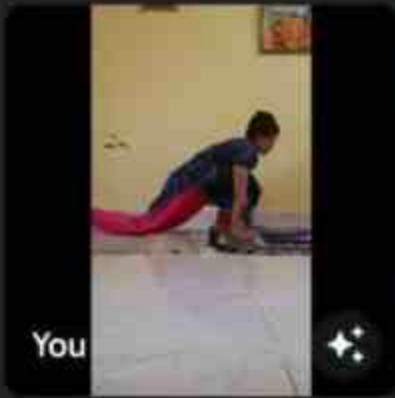
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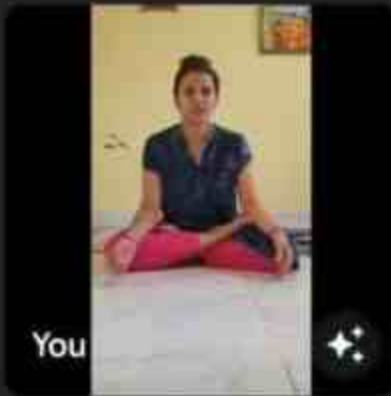
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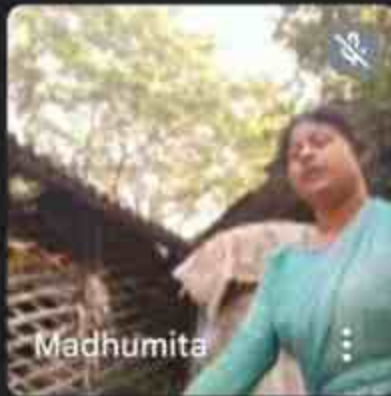
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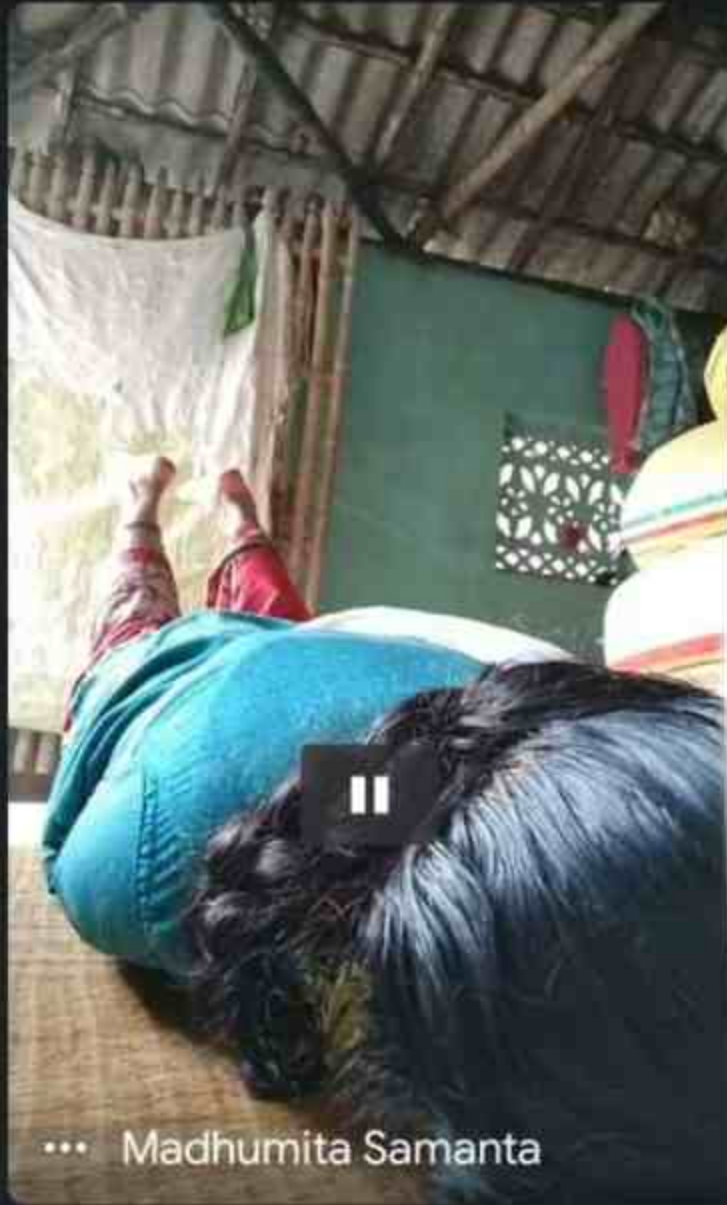
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... Titli Chakraborty



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Below it is a circular official stamp with text in Bengali.



... Madhumita Samanta



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01:06:20



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Official circular stamp of the Government of Karnataka, Department of Health and Family Welfare, Bangalore.



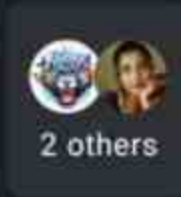
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RECORD OF ONLINE Y04 A
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FOR THE MONTH.

Sl. No.	NAME OF PUPILS	No. of Days		
		Present	Absent	Others
1	Ashwiniya Phavai	20	1	0
2	Asmita Khimre	20	1	0
3	Prasanna Khatun	20	1	0
4	Yashwantrao Ingle	20	1	0
5	Tarunima Dhole	20	1	0
6	Rishika Phule	20	1	0
7	Krunal Kalyan	20	1	0
8	Pratik Kalambekar	20	1	0
9	Pratik Kalambekar	20	1	0
10	Ashwiniya Phavai	20	1	0
11	Sudhanu A. Phule	20	1	0
12	Pooja S. Phule	20	1	0
13	Pratik Kalambekar	20	1	0
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16	Pratik Kalambekar	20	1	0
17	Muskan Das	20	1	0
18	Ashwiniya Phavai	20	1	0
19	Md A G H Hossen	20	1	0
20	Santar Phule	20	1	0
21	Rishika Phule	20	1	0
22	Tanvi Kalambekar	20	1	0
23	Nehant Khatun	20	1	0
24	Rishika Phule	20	1	0
25	Pratik Kalambekar	20	1	0
26	Suman Jais	20	1	0
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100	Pratik Kalambekar	20	1	0

No Absent daily -
No Present daily -
TOTAL

SREEMA TRADERS, 42 Dharma Laxmi Vardola St, 2710388
 No. of Pupil Roll No. of Pupil Roll No. of Pupil Roll

CLASSED '2020-21'
ANCE OF PUPILS
 OF Attendance %

ANCE	No. of Days
Present	20
Absent	1
Others	0

No. of working days during the month -
 Average Daily Attendance
 Percentage of Attendance during the month -





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Summary report of nutrition and its importance in life

As declared by the Govt. of West Bengal, Narajole Raj College observed students' week from 1st January to 7th January, 2022. Green Club of our college arranged a webinar on 7th January, 2022 on 'awareness and counselling about nutrition and its importance in life'. A brief report is enumerated below: -

Rationale of the webinar- The webinar was conducted to create awareness amongst the students and faculties as also counsel them as to the nutrition and its importance in human life.

Plan of work- The honourable members decided to invite a resource person having profound knowledge in Nutrition science to make aware of the participants and counsel them about the importance of nutrition in day-to-day human-life.

Schedule of the webinar- The members of Green Club decided to hold the webinar on 7th January, 2022 and invited Mrs. Poulami Mandal as speaker.

List and brief bio-data of the speaker- The Green Club invited only Mrs. Poulami Mandal, consultant dietician, former dietician of Peerless Hospital, Kolkata.

Theme address by Convenor, Green Club- Convenor, Prof. Arpita Chakraborty in her speech highlighted the awareness amongst students and counsel them about the importance of taking nutritious food to maintain good health and habit. She also stressed and advised the students to take Indian Traditional food, in spite of taking fast-food which are now-a-days available in every place, and every corner of the society.

Outcome of the webinar- Mrs. Poulami Mandal, consultant dietician, former dietician of Peerless Hospital, Kolkata discussed in detail-what is nutrition, which are the nutritious foods to be taken when the techniques to maintain good health and habit. She also told that costly foods are not always nutritious. Sometimes the low-cost foods which are available in our country are very nutritious to maintain good health and habit.

Students' feedback- The students' become very glad and expressed thanks to the main speaker and others who spoke in the webinar on 7th January, 2022.

15/01/22
NARAJOLE RAJ COLLEGE
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Website: <http://www.narajolerajcollege.ac.in>



Selected Photograph



Observance of **Students' Week 2022**

Day 7, 07.01.2022

Time: 12 noon – 1 p.m.



Awareness and Counselling about Nutrition and its Importance in Life

Resource Person

Poulomi Mandal
Consultant Nutritionist
Former Dietician, Peerless Hospital

Organized by

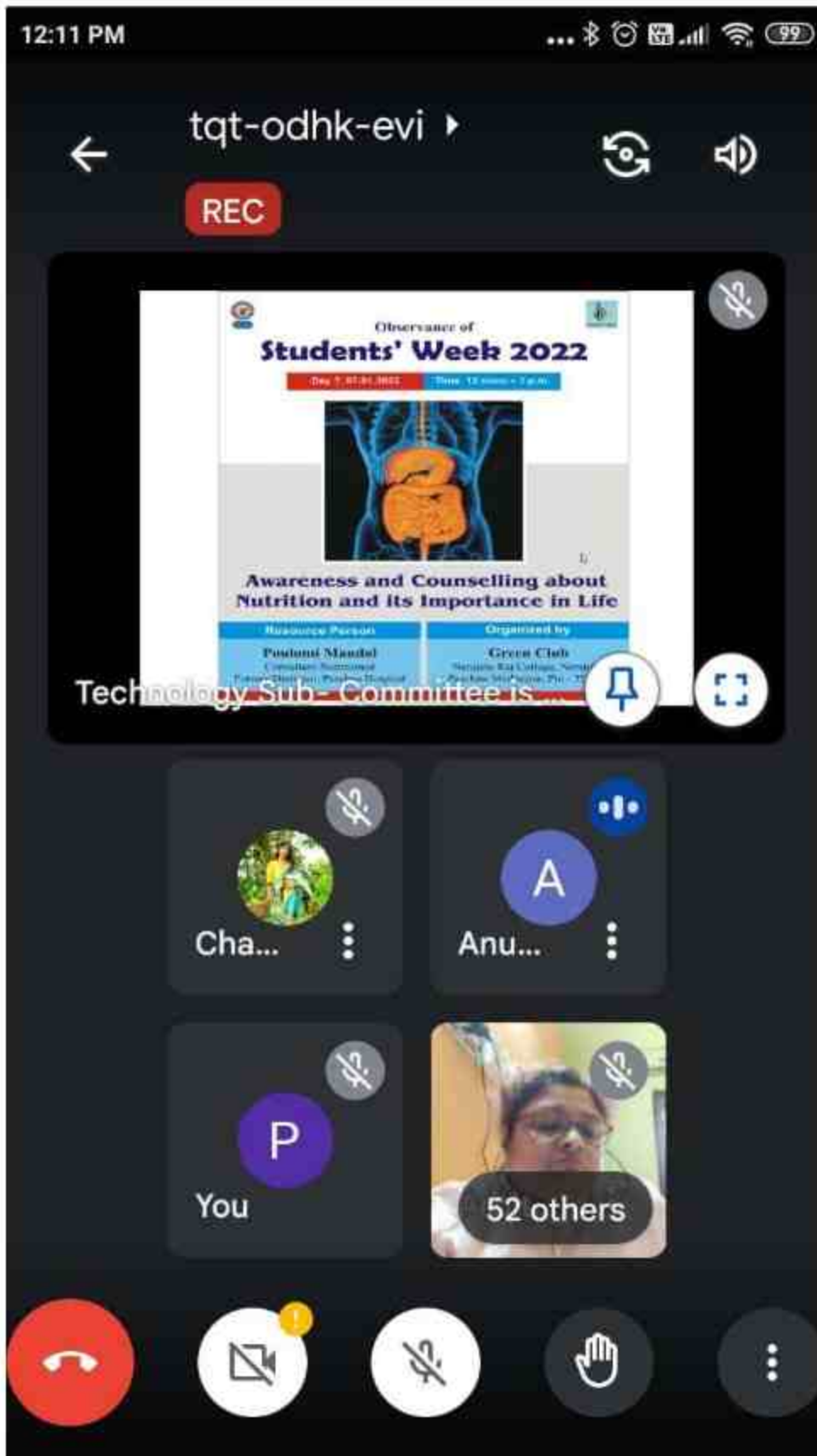
Green Club
Narajole Raj College, Narajole,
Paschim Medinipur, Pin - 721211

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Technology Sub-Committee is...





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REC

Arpita Chakraborty

Chameli

Technology Sub-...

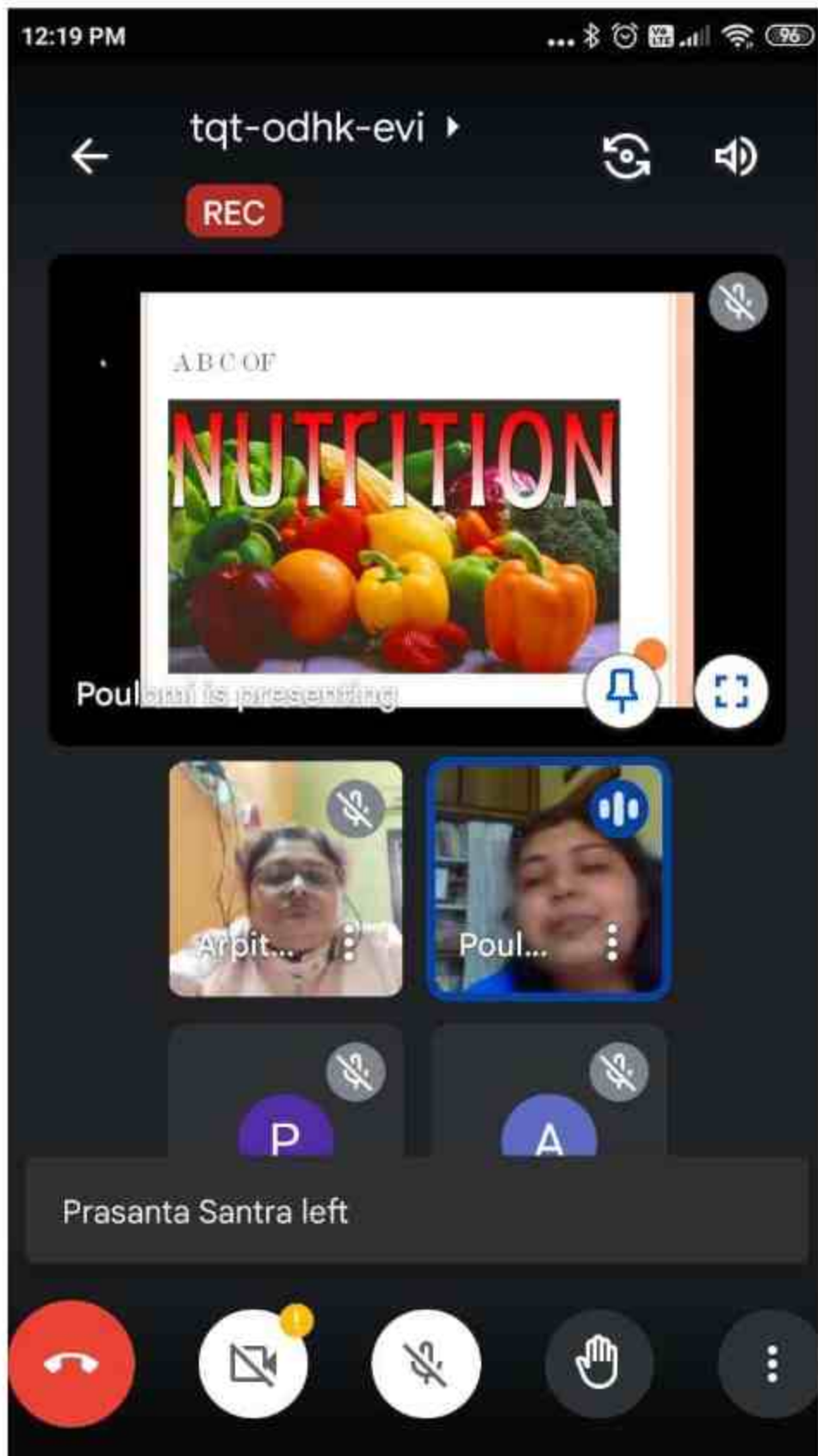
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Anup 57 others

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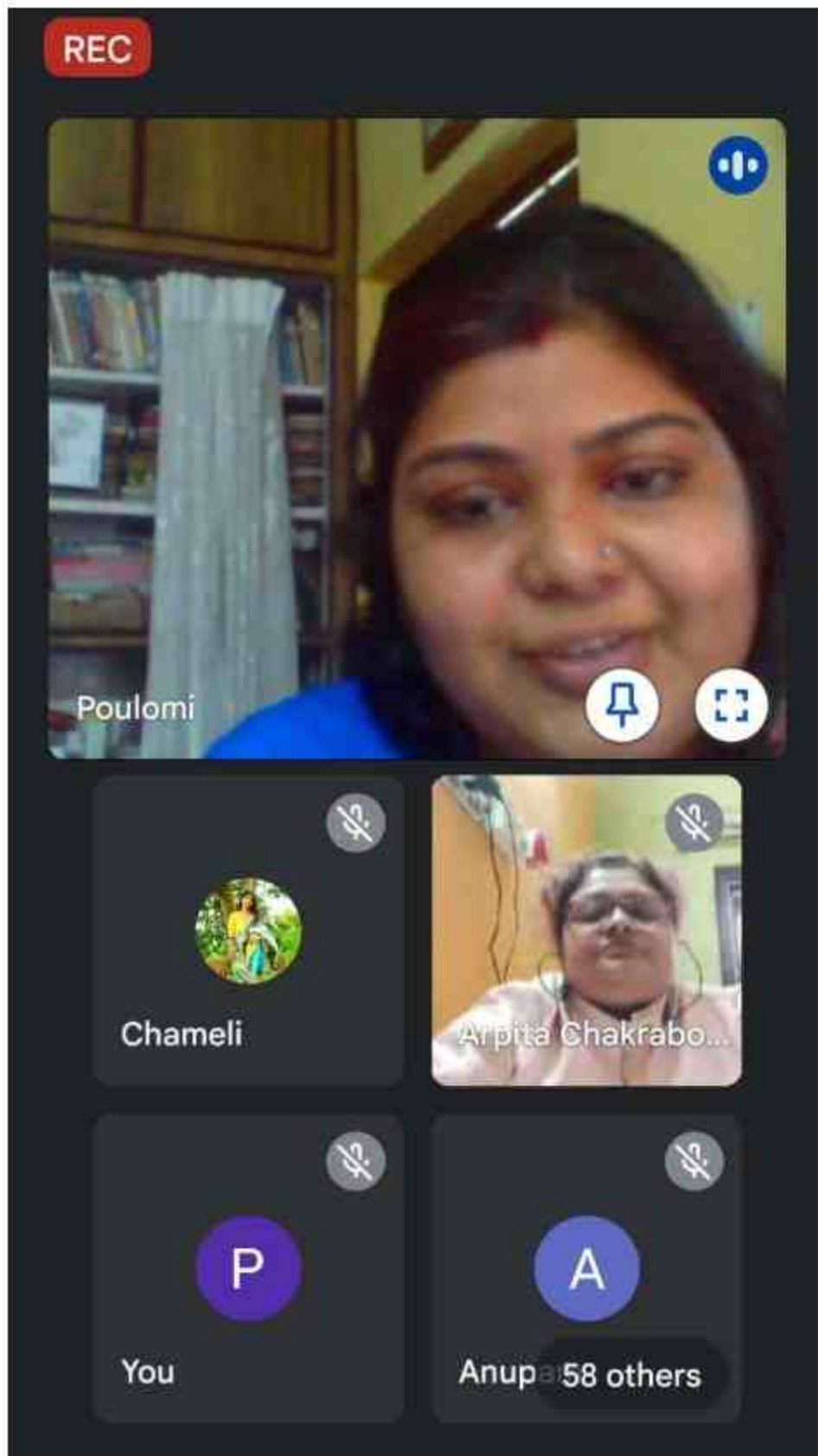
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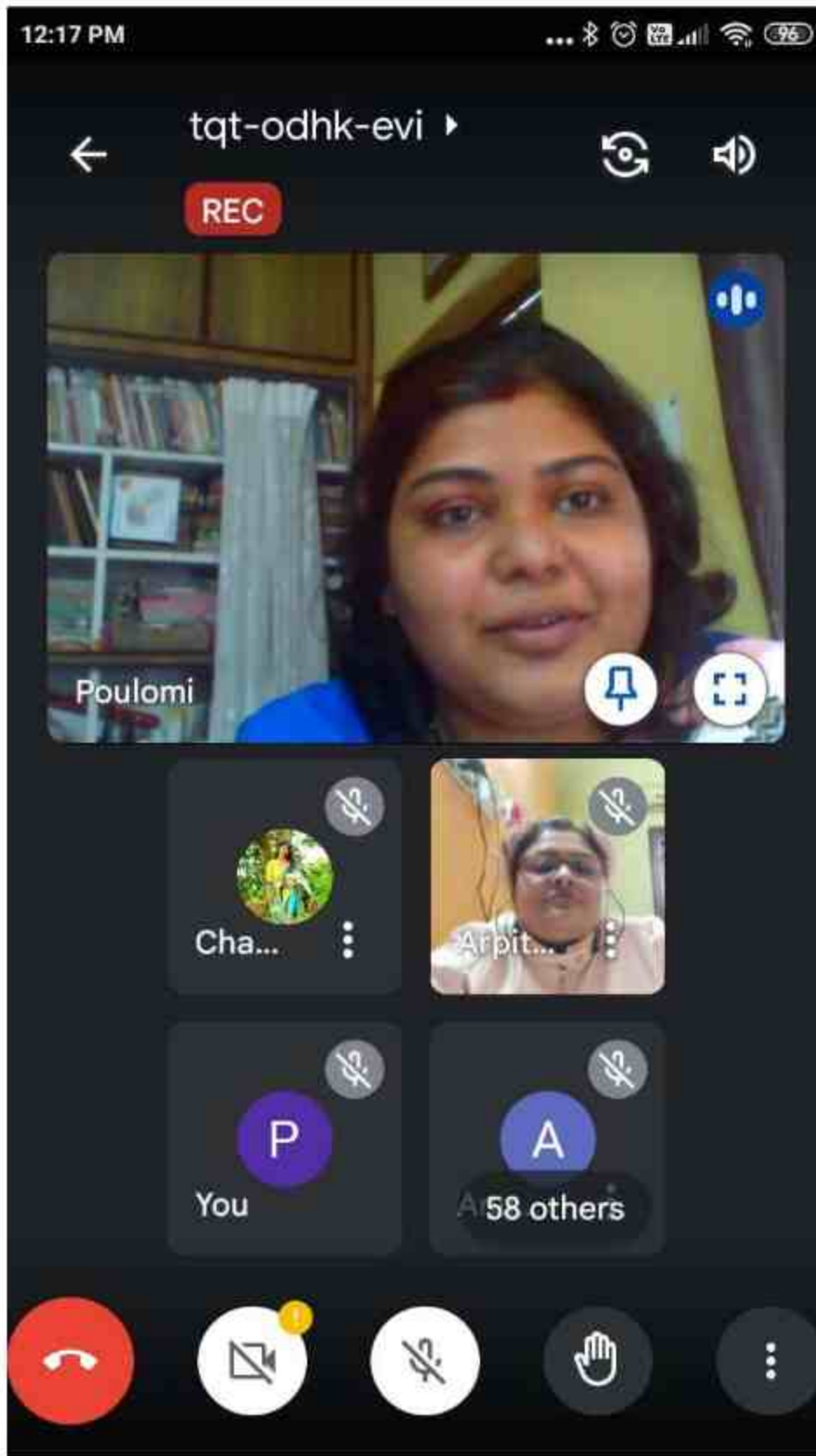


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REC

VITAMIN C



- Food Sources:
 - Citrus fruits, strawberries, kiwi, broccoli, tomatoes, and potatoes.
- Function in the Body:
 - Helps heal wounds.
 - Helps maintain healthy bones, teeth, and blood vessels.
 - Helps body fight infection.

Poulami is presenting



You

A 49 others



15/07/2022



A Value – added Course on Yoga & Meditation : This Value – added Course on Yoga & Meditation is carried out through Offline Mode by the Yoga Centre of the Narajole Raj College .

A Syllabus was assigned to them .The classes of this course were taken from 21.06.2022 to 20.09.2022 through offline mode.

Fifty students (50) were enrolled . In this context it is good to state that The Physical Education Foundation of India (PEFI) , West Bengal Chapter extends its collaboration with the Yoga Centre , Narajole Raj College in the academic session 2022-2023.

Details of the experts / Yoga Trainers :

1 .Name : Prof. Bholanath Mahato.

Designation: Assistant Professor.(Philosophy)

Qualification: M.A. in Philosophy.

Professional qualification: The Art of Living Teacher.

Other qualification: UGC-NET.

2. Name: Prof.Nandita Bhakat.

Designation: Assistant Professor.(Botany)

Qualification: M.Sc. in Botany.

Professional qualification: B.Ed.

Other qualification: W.B.SET.

3. Name : Dr. Atanu Nanda.

Designation: Assistant Professor.(Physical Education)

Qualification: M.A. , Ph.D.

Other qualification: Short term Course in Yoga.



Learning Outcome & necessity of the course:

- * Students can easily learn different types of Yoga, Meditation and Pranayama.
- *To culture a habit of regular Yoga and Meditation practice.
- *To increase the body flexibility as well as mental peace.
- *To make the students aware towards the benefits of Yoga and Meditation.
- * Right way to think for something or someone.
- *How to be motivated by one's own self.
- * How to remove the pessimistic aspects of life.
- * How to utilize the present moment.



Prof. Bholanath Mahato.
Convenor, Yoga Centre.
Narajole Raj College.



NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Yoga Centre

Registered candidates of VAC on Yoga & Meditation

Roll no.	Name
01.	Parsharan Jana.
02.	Prasmit Das.
03.	Rehmi Dolai.
04.	Supriya Samanta.
05.	Pinki Dolui.
06.	Mansu Bera.
07.	Puja Jana.
08.	Mansoni Mondal.
09.	Bhuban Hait.
10.	Papiya Maji.
11.	Tithi Patra.
12.	Somali Paramanik.
13.	Mansu Dhara.
14.	Asli Jana.
15.	Partha Bagra.
16.	Akash Maji.
17.	Malay Rana.
18.	Tithi Chakraborty.
19.	Debika Roy.
20.	Rajesh Hait.
21.	Ananya Mondal.
22.	Mandira Dolai.
23.	Marjushri Khatua.
24.	Sami Pathak.
25.	Piyel Pattanayak.
26.	Mansiba Ghose.
27.	Piyali Pattanayak.
28.	Tapani Marsdal.
29.	Mousmita Subud.
30.	Puja Mondal.
31.	Arjali Khanna.
32.	Medina Patra.
33.	Kimpa Pal.
34.	Krishna Adhikary.
35.	Susmita Maitty.
36.	Suman Jana.
37.	Tulsi Paria.
38.	Papriya Dolai.
39.	Madhurita Dhara.
40.	Basanti Sontro.
41.	Purnamita Ghosal.
42.	Gangya Jana.

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43. Bijoy Mondal.
44. Madhumita Samanta.
45. Sujit Kundu.
46. Priyanka Pramanik.
47. Pinki Chowdhury.
48. Baishakhi Dolai.
49. Soutmen Jana.
50. Surajit Dal.

N.B : Classes will be held in room no 5-6.

Bhisanath Marab

Convenor
Yoga Centre
Narajit Rai College





NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Yoga Centre

Tentative course schedule for VAC on Yoga & Meditation

Date	Time	Topic	Name of the trainer/trainers.
21/06/2022	9:00-10:00	Introduction of Yoga & Meditation & Benefits.	Prof. Bholanath Mahato, Prof. Nandita Bhakat, Dr. Atanu Nanda.
22/07/2022	9:00-10:00	Free hand exercises & Benefits.	Prof. Bholanath Mahato.
23/07/2022	9:00-10:00	Free hand exercises & Benefits. 2	Prof. Bholanath Mahato.
28/07/2022	9:00-10:00	Surya Namaskar & Benefits.	Prof. Bholanath Mahato.
29/07/2022	9:00-10:00	Surya Namaskar & Benefits. 2	Prof. Bholanath Mahato.
04/08/2022	9:00-10:00	The relation between yoga & meditation along with benefits.	Prof. Bholanath Mahato.
05/08/2022	9:00-10:00	Important of meditation.	Prof. Bholanath Mahato.
06/08/2022	9:00-10:00	Bajrasana, Vastrika Pranayama & its benefits Vastrika.	Prof. Bholanath Mahato.
08/08/2022	9:00-10:00	Gorurasana, Gomukhasana & benefits.	Dr. Atanu Nanda.
10/08/2022	9:00-10:00	Padmasana, Vujanpasana & its benefits.	Prof. Nandita Bhakat.
12/08/2022	9:00-10:00	Salvasana, Brikhasana & its benefits.	Prof. Bholanath Mahato.
13/08/2022	9:00-10:00	Meditation for Inner peace.	Prof. Bholanath Mahato.
17/08/2022	9:00-10:00	Bajrasana, Ushtrasana & benefits.	Prof. Nandita Bhakat.
20/08/2022	9:00-10:00	Astanga Yoga: yama, niyama, asana & benefits.	Prof. Bholanath Mahato.
22/08/2022	9:00-10:00	Pranayam, Pratyahar, Dharana & benefits.	Prof. Bholanath Mahato.
25/08/2022	9:00-10:00	Bhadrasana, Dhruvasana & benefits.	Dr. Atanu Nanda.
28/08/2022	9:00-10:00	Dhyana, Samadhi & benefits.	Prof. Bholanath Mahato.

27/08/2022	9:00-10:00	Free hand excercises & benefits	Prof.Nandita Bhakat
29/08/2022	9:00-10:00	Anulom - Bilom & benefits.	Prof.Bholanath Mahato.
30/08/2022	9:00-10:00	The benefits Vastrika.	Prof.Bholanath Mahato.
01/09/2022	9:00-10:00	Sarbangasana,Paschimasana & benefits.	Prof.Nandita Bhakat.
02/09/2022	9:00-10:00	Bhadrasana ,Dhanurasana& benefits.(2)	Dr. Atanu Nanda.
03/09/2022	9:00-10:00	Halasana,Padahasana & benefits.	Dr. Atanu Nanda.
09/09/2022	9:00-10:00	Sarbangasana,Paschimasana & benefits.(2)	Prof.Nandita Bhakat
10/09/2022	9:00-10:00	Halasana,Padahasana & benefits.(2)	Dr. Atanu Nanda.
12/09/2022	9:00-10:00	Gorurasana, Gomukhasana & benafits.(2)	Dr. Atanu Nanda.
13/09/2022	9:00-10:00	Free hand excercises & benefits(2)	Prof.Nandita Bhakat
17/09/2022	9:00-10:00	Padmasana , Vujangasana & its benefits.	Dr. Atanu Nanda.
19/09/2022	9:00-10:00	Padmasana , Vujangasana & its benefits.(2)	Prof.Nandita Bhakat
20/09/2022	9:00-10:00	Bajrasana,Ushtrasana & benefits.	Prof.Nandita Bhakat

N.B : Classes will be held in room no.S-6.

Bholanath Mahato

Convenor
Yoga Centre
NarajoleRaj College

Convenor
Yoga Centre
Narajole Raj College
Narajole, PIN: 721211



NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE - PASCHIM MEDINIPUR, PIN-721211



Value Added Course on Yoga and Meditation

Syllabus for VAC on Yoga & Meditation

Part A: Yoga

- | | |
|---|-------------|
| 1. Yoga and its important. | 3 Classes.) |
| 2. Free hand exercises . | 3 Classes.) |
| 3. Surya Namaskar . | 3 Classes) |
| 4. Padmasana and Bhujangasana. | 2 Classes) |
| 5. Salvasana and Brikhasan. | 2 Classes) |
| 6. Rajasana and Ushtrasan, Padahasthasag. | 2 Classes) |
| 7. Gorudhasana and Gamukhasana. | 2 Classes) |
| 8. Vadasana and Dhanurasana. | 2 Classes) |
| 9. Dhanurasana and Halasana . | 2 Classes) |
| 10. Sarbangan and Paschimatanasana. | 2 Classes) |

Part B: Asatantga Yoga (3 Classes)

The eight limbs of yoga are yama (abstinences), niyam (observances), asana (yoga postures), pranayama (breath control), pratyahara (withdrawl of senses), dhazana (concentration), dhyana (meditation) and samadhi (absorbition).

Part C: Meditation

Prayer through mantra chanting. 1 Class.

Meditation for inner peace (1 Class)

Anulom-Silom (1 Class)

Vastrika (1 Class.)

Priyanka Pranita Mondal,

Signature of the IQAC Coordinator
Narajole Raj College

CO-ORDINATOR,
IQAC
NARAJOLE RAJ COLLEGE
NARAJOLE, PASCHIM MEDINIPUR

Signature of the External Expert
With designation & affiliation

Secretary
PEPI, West Bengal Chapter India

NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



ESTD-1968

Yoga Centre

Roll no.	Name
01.	Panchanan Jara.
02.	Prasenjit Das.
03.	Rebati Dolai.
04.	Supriya Samanta.
05.	Pinki Dolai.
06.	Manas Bera.
07.	Puja Jana.
08.	Mamoni Mondal.
09.	Bhuban Hait.
10.	Papiya Maji.
11.	Tithi Patra.
12.	Somali Paramanik.
13.	Manju Dhara.
14.	Asit Jana.
15.	Partha Bogra.
16.	Akash Maji.
17.	Malay Rana.
18.	Tithi Chakraborty.
19.	Debika Roy.
20.	Rajesh Hait.
21.	Ananya Mondal.
22.	Mandira Dolai.
23.	Manjushri Khatua.
24.	Soma Pathak.
25.	Payel Pattanayak.
26.	Manisha Shee.
27.	Piyali Pattanayak.
28.	Tapasi Mandal.
29.	Moumita Sabud.
30.	Puja Mandal.
31.	Anjali Khanna.
32.	Molana Patra.
33.	Ritupa Pal.
34.	Krishna Adhikary.
35.	Saxmita Maitty.

No. Present daily	
No. Absent daily	
TOTAL	

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OF *June* 18
ANCE

Handwritten entries with checkmarks in a grid format, likely representing attendance or performance data.

No. of working days during the month
Average daily attendance
Percentage of attendance during the month

- 43. Biloy, Mironchik
- 44. Madhramita Samant
- 45. Sigit, Karucha
- 46. Phiyencha Pyanmohk
- 47. Firda, Chiroedhury
- 48. Rabibakhu Doshi
- 49. Soumen, Jaisa
- 50. Saenzhit Dal

FOR THE MONTH

NAME	MONTH												ATTEND.	
	1	2	3	4	5	6	7	8	9	10	11	12		
Biloy, Mironchik	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Madhramita Samant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sigit, Karucha	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Phiyencha Pyanmohk	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firda, Chiroedhury	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rabibakhu Doshi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Soumen, Jaisa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Saenzhit Dal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

No. Present days: _____
 No. Absent days: _____
 TO PAID: _____

OF June November

NAME	MONTH												ATTEND.	
	1	2	3	4	5	6	7	8	9	10	11	12		
Biloy, Mironchik	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Madhramita Samant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sigit, Karucha	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Phiyencha Pyanmohk	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firda, Chiroedhury	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rabibakhu Doshi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Soumen, Jaisa	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Saenzhit Dal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

No. Present days: _____
 No. Absent days: _____



Captain
 Tiger Centre
 Nanyang College

The President

Governing Body

Narajole Raj College

Through:

The Vice Principal

Narajole Raj College

&

IQAC Coordinator

Narajole Raj College

Sub: Approval of syllabus of Value Added Course on YOGA AND MEDITATION

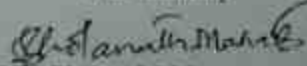
Sir,

With reference to the proposal of the Value Added Course on YOGA AND MEDITATION submitted to the IQAC by the YOGA CENTRE, Narajole Raj College on 16/06/2022 and the meeting held on 18/06/2022 of the BOS constituted for the approval of the syllabus, I do kindly inform you that the course syllabus has been approved by our External Expert, PROF.(DR)DEBA PRASAD SAHU, PRINCIPAL, SEVA BHARATI MAHAVIDYALAYA, JHARGRAM, WEST BENGAL (via Meeting Resolution No. 02 dt.18/06/2022. The ratification of the syllabus is duly attested and acknowledged below by our External Expert for the purpose of authentication and documentation.

I would, therefore, request you to consider the relevant documents attached herewith and to facilitate the introduction of the course in the next semester.

Thanking you,

Yours faithfully,


(Prof. Bholanath Mahato)

Assistant Professor

Department of Philosophy

Narajole Raj College

The syllabus of the Value Added Course on YOGA AND MEDITATION is hereby approved at the meeting of the BOS held on 18/06/2022 at Narajole Raj College.



Signature of the External Expert with date

Designation & Affiliation

Secretary
PPT, West Bengal Chamber of Education

Emailed by:


1) Signature of the Vice Principal with date in official seal


Vice-Principal
Narajole Raj College
P.O. Narajole



415428.06.2008

Physical Education Foundation of India

National Sports Promotion Organisation

Recognised by

Ministry of Youth Affairs & Sports (Government of India)

West Bengal Chapter

MEMBERS

President

Arjan Biswas

Vice-President

Pranendu Pradhan
Pradyumn Mukhopadhyay
Sankar Chatterjee
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Secretary

Deba Prasad Sahu

Joint Secretary

Dr. Samalya Roy
Dr. Prasen Chatterjee

Treasurer

Mr. Subhadip Pal

Programs Director

Dr. Mahabub Khan
Dr. Subhadip Pal
Dr. Samalya Roy

Ref. No.:

Date:

To
The Vice Principal
Narajole Raj College
Narajole, Paschim Medinipur
West Bengal, India


From
Dr. Deba Prasad Sahu
Secretary
PEFI, West Bengal Chapter
India

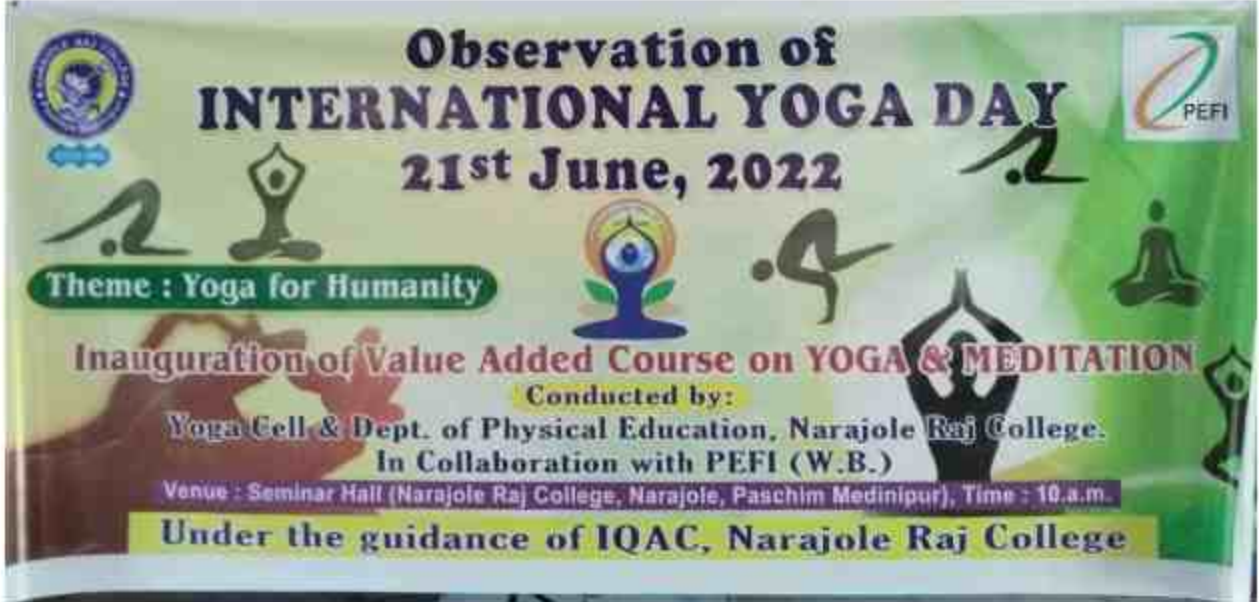
Sub: Collaboration between Narajole Raj College and the Physical Education Foundation of India (PEFI), West Bengal Chapter.

Sir,

I gladly inform you that as discussed in the BOS convened by you on 18.06.2022, the Physical Education Foundation of India (PEFI), West Bengal Chapter extends its collaboration with the Yoga Centre, Narajole Raj College, to offer the Value-Added Course on Yoga and Meditation in Narajole Raj College from June to December 2022 in the academic session 2022-23. I hope that this collaboration will benefit the students and will add value to the course.

Thank you.


Secretary
PEFI, West Bengal Chapter India



**Observation of
INTERNATIONAL YOGA DAY
21st June, 2022**

Theme : Yoga for Humanity

Inauguration of Value Added Course on YOGA & MEDITATION
Conducted by:
Yoga Cell & Dept. of Physical Education, Narajole Raj College.
In Collaboration with PEFI (W.B.)

Venue : Seminar Hall (Narajole Raj College, Narajole, Paschim Medinipur), Time : 10.a.m.

Under the guidance of IQAC, Narajole Raj College

Signature
15/06/22
NARAJOLE RAJ COLLEGE
PASCHIM MEDINIPUR





OP9 Map Camera



Kismat Narajole, West Bengal, India
HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole,
West Bengal 721232, India
Lat 22.566381°
Long 87.604256°
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Kismat Narajole, West Bengal, India

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Lat 22.566253°

Long 87.604495°

21/06/22 10:51 AM

GPS Map Camera







Kismat Narajole, West Bengal, India
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Lat 22.566178°
Long 87.604406°
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15/07/2022
Principal
Kismat Narajole V.P.U. College



College



Google

Kismat Narajole, West Bengal, India

HJ84+G3P, Medinipur Ln, Kismat Narajole, West Bengal 721232, India

Lat 22.566183°

Long 87.604541°

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Kismat Narajole, West Bengal, India

HJ84+G3P, Medinipur Ln, Kismat Narajole, West Bengal 721232, India

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Long 87.604447°

21/06/22 11:12 AM

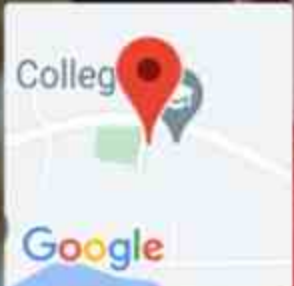
Observation of INTERNATIONAL YOGA DAY 21st June, 2022

Theme : Yoga for Humanity

Inauguration of Value Added Course on **YOGA & MEDITATION**
Conducted by:
Yoga Cell & Dept. of Physical Education, Narajole Raj College.
In Collaboration with PEFI (W.B.)
Venue : Seminar Hall (Narajole Raj College, Narajole, Paschim Medinipur), Time : 10.a.m.

Under the guidance of IQAC, Narajole Raj College





Kismat Narajole, West Bengal, India
HJ83+J97, Kismat Narajole, West Bengal 721232, India
Lat 22.566455°
Long 87.60386°
22/07/22 01:11 PM

Handwritten signature and date: 22/07/22



Gender Stereotyping and Skill Development of Women

Organised by the Department of Political Science

In collaboration with

IQAC, Narajole Raj College

08.03.2022

The Department of Political Science of Narajole Raj College has organised a Webinar on "Gender Stereotyping and Skill Development of Women" on 08.03.2022 in collaboration with IQAC, Narajole Raj College through online platform via Google Meet Application to celebrate International Women's Day. We are feeling very blessed to host this Webinar, particularly in this time, when physical classes have been suspended, due to pandemic of Covid 19 virus.

Necessity of the Webinar: We have keen interest to celebrate the International Women's Day because all of us aware of the fact that this Day is celebrated every year to remember the struggles through which women achieved different socio-economic and political rights, equal status in the family, society and workplace. Therefore, we have organized this Webinar on Gender Stereotyping and Skill Development of Women.

Resource Person: Smt. Sayanti Roy, Deputy Director, Department of Planning and Statistics, Government of West Bengal is the respected invited speaker of the webinar. Our Honorable Principal -Dr. Anupam Parua, PhD, C.S. is the president of Organizing Committee of the webinar.

No of Participants: Total 142 participants from the Dept. of Political science and other Departments and Teachers of different Departments of our College have participated in this webinar.

Topic Discussed by the Resource Person: Smt. Sayanti Roy talked on the Topic entitled "Gender Stereotyping and Skill Development of Women". She elaborately discussed on the topic and pointed out the drawbacks of socialization of our society that cause the gender stereotyping and finally hinder women to choose their professions and also gave suggestions to overcome such problems. The interactive Session has become very lively through the active participation of the students.

Outcomes: The explanations and suggestions of the Resource Person regarding sensitizing Gender issues and to practise in day to day live to bring a positive change in the society, enriched the participants and they gained a clear conception on the issue. In long term this will be helpful to combat gender stereotyping and for women empowerment also in our society. The webinar enkindled the awareness about the Gender Stereotyping and Skill Development of women among the participants and fulfilled the aim and objective of organizing the webinar.

<https://meet.google>



iyi-rkaw-ngo.html



Rajasree Debrotta
Associate Professor
Dept. of Political Science
Narajole Raj College



International Wom...



02:47



Government Initiatives in India to promote VET for Women:

- Women Industrial Training Institutes.
- National Vocational Training Institutes.
- Regional Vocational Training Institutes.
- **SKILL INDIA MISSION.**
 To promote the employability of female workers.
- **Pradhan Mantri Kaushal Vikas Kendra:**
 To create suitable infrastructure, skill, OJ training and opportunities for women.
- Pradhan Mantri Mudra Yojana.
- Stand Up India.
- Prime Minister's Employment Generation Programme (PMEGP)
 To help the women in setting up their own enterprise.



www.ijer.in



Sayanti is presenting



Saya...



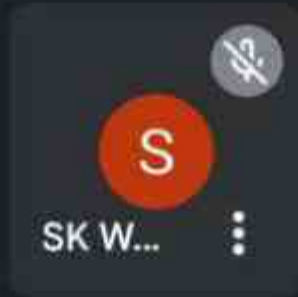
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History



You



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International Wom... ▶



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Sushmita



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Sukrishna



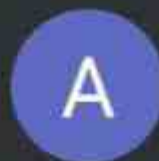
Sayanti



History



You



Anupam 50 others





NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Govt. – Aided College)
NARAJOLE: PASCHIM MEDINIPUR: PIN-721211
CAREER COUNSELLING CELL



Report:

“Capacity Building & Training: Workshop for Young Aspirants on WBCS & Allied Services”

Date: 30th April 2022

Venue: Seminar Hall, Narajole Raj College

Career Counselling Cell of Narajole Raj College has been actively working since 2014. The key moto of this cell is to provide proper information and guidance to the students by organising career oriented seminar, training, workshop etc. to ensure the overall development of our students and alumni, so that they get information and current scenario of job opportunity and prepare themselves accordingly before entry of their professional life. On 30th April 2022, the Career Counselling Cell and IQAC of Narajole Raj College organized a State Level Workshop on “Capacity Building & Training: Workshop for Young Aspirants on WBCS & Allied Services” for UG and PG students. We have invited **Mr. Suman Biswas** Honourable SDO, Ghatal, **Mr. Agniswar Choudhuri** Honourable SDPO, Ghatal, **Mr. Suprajit Hira** Honourable DEC, Ghatal, **Mr. Bikash Naskar** Honourable BDO, Daspur I, **Mr. Koushik Samanta** Honourable BL & LRO, Daspur, **Mr. Debashis Ghosh** Honourable CI, Ghatal, **Mr. Amit Mukherjee** Honourable OC, Daspur PS. as a resource person of the Workshop. The Workshop began at 11:00am in seminar hall of our college. More than 500 participant participated in this workshop out of which 457 students are registered for this workshop. The programme began with a warm Inaugurator’s address by our respected Vice-Principal Dr. Ranajit Kumar Khalua followed by introductory address by Dr. Sk Mohammad Aziz, Convener of the Career Counselling Cell, Narajole Raj College. Dr. Aziz addressed the students and the team and briefly discussed the purpose and aim of conducting this workshop in the College. He focused on the issue of ‘employability’ and emphasized the need for personality development in the current job market. The technical session of the Webinar then commenced. **Mr. Suprajit Hira** Honourable DEC, Ghatal, the 1st speaker of this session, introduced the key concepts how to crack WBCS, UPSC exam and also discuss thoroughly how to initiate preparation for such top class competitive exams. Our next speaker **Mr. Koushik Samanta** Honourable BL & LRO, Daspur gives very basic idea of how to follow the syllabus and plan properly to overcome of difficulties of this type of exam. In the final technical session **Mr. Suman Biswas** Honourable SDO, Ghatal elaborately discussed in details about WBCS, UPSC and allied service preparation related information and guidance through his nice PowerPoint presentation. After that there was a short interactive session with the students. In the valedictory session our honourable President of Governing body Mr. Sujit Kumar banerjee delivered the presidential address followed by vote of thanks by Dr. Rajasree Debnath. The whole programme was coordinated by Dr. Rajasree Debnath, convener of Cultural and Seminar subcommittee. The Workshop was quite successful and the students were very enthusiastic about everything that they learnt on Capacity building and job eligibility in the sessions.





NARAJOLE RAJ COLLEGE
 (NAAC Accredited B Grade Govt. – Aided College)
 NARAJOLE, PASCHIM MEDINIPUR; PIN-721211
CAREER COUNSELLING CELL



Brochure of the Programme:

Narajole Raj College
 (NAAC Accredited "B" Grade Govt.-Aided College)
 NARAJOLE, PASCHIM MEDINIPUR; PIN-721211

"CAPACITY BUILDING & TRAINING : WORKSHOP FOR YOUNG ASPIRANTS ON WBCS & ALLIED SERVICES"

<p align="center">President Sri Sujan Kumar Banerjee Governing Body Narajole Raj College</p>	<p align="center">Chief Patron Dr. Ranjit Kumar Khaita Vice-Principal, Narajole Raj College</p>	<p align="center">Dr. S. Mohammad Aziz Convener, Career Counselling Cell, Narajole Raj College</p>	<p align="center">Prof. Pragya Parmanu Mondal Co-ordinator, IQAC, Narajole Raj College</p>
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Eminent Speakers

- Mr. Suman Bhowmik - Honourable SDO, Ghatal*
- Mr. Agastya Choudhury - Honourable SDPO, Ghatal*
- Mr. Saptarshi Hira - Honourable DEC, Ghatal*
- Mr. Bikash Naskar - Honourable BDO, Daspur-I*
- Mr. Anurban Sahoo - Honourable BDO, Daspur-II*
- Mr. Koushik Samanta - Honourable BL & LRO, Daspur*
- Mr. Debajit Ghosh - Honourable CI, Ghatal*
- Mr. Amit Mishrajee - Honourable OC, Daspur PS*

Sponsored By:
 Prof. Barun Rout & Dr. S. Mohammad Aziz
 Joint Convener, Technology Sub-Committee, Narajole Raj College

Narajole Raj College
 (NAAC Accredited "B" Grade Govt.-Aided College)
 NARAJOLE, PASCHIM MEDINIPUR; PIN-721211

"CAPACITY BUILDING & TRAINING : WORKSHOP FOR YOUNG ASPIRANTS ON WBCS & ALLIED SERVICES"

Organized by : Career Counselling Cell, Narajole Raj College
 Under Guidance of IQAC, Narajole Raj College

INVITATION

Dear Sir,

It is our great pleasure to inform you that the Career Counselling Cell in collaboration with IQAC, Narajole Raj College, is going to organize "Capacity Building & Training : Workshop for Young Aspirants on WBCS & Allied Services" on 30th April, 2022 at 10 A.M. The Career Counselling Cell of the college has always conducted workshops and training programmes that ensure the overall development of our students and alumni. We aim to prepare them to meet diverse professional requirements and would like to enlighten them regarding the modalities of the West Bengal Civil Service and Allied Services in the government sector.

We, therefore, solicit your cooperation and active participation in this workshop and hope that the valuable ideas that you share as part of the deliberations will help us fulfill our vision towards the employability of our students and alumni. We request you to kindly grace the occasion with your esteemed presence and to make the event a grand success.

<i>Sri Sujan Kumar Banerjee</i> President, Governing Body, Narajole Raj College	<i>Dr. Ranjit Kumar Khaita</i> Vice-Principal Narajole Raj College	<i>Prof. Pragya Parmanu Mondal</i> Co-ordinator, IQAC, Narajole Raj College	<i>Dr. S. Mohammad Aziz</i> Convener, Career Counselling Cell, Narajole Raj College
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NARAJOLE RAJ COLLEGE
 (NAAC Accredited B Grade Govt. – Aided College)
 NARAJOLE: PASCHIM MEDINIPUR: PIN-721211
CAREER COUNSELLING CELL



Google form Registration for the students:



Sample of E-Certificate





NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Govt. – Aided College)
 NARAJOLE: PASCHIM MEDINIPUR: PIN-721211
CAREER COUNSELLING CELL



Selected Photograph of the program:



15/07/22



NARAJOLE RAJ COLLEGE
 (NAAC Accredited B Grade Govt. – Aided College)
 NARAJOLE: PASCHIM MEDINIPUR: PIN-721211
 CAREER COUNSELLING CELL



HJ84+G3P, Medinipur Ln, Kismat Narajole,
 West Bengal 721232, India
 Latitude 22.566282° Longitude 87.604437°
 LOCAL 11:04:57 SATURDAY 04.30.2022
 GMT 05:54:57 ALTITUDE -27 METER



HJ84+G3P, Medinipur Ln, Kismat Narajole,
 West Bengal 721232, India
 Latitude 22.566281° Longitude 87.604437°
 LOCAL 11:04:57 SATURDAY 04.30.2022
 GMT 05:54:57 ALTITUDE -27 METER



HJ84+G3P, Medinipur Ln, Kismat Narajole, West Bengal 721232, India
 Latitude 22.566282° Longitude 87.604421°
 LOCAL 10:42:35 CMT 05:12:35 SATURDAY 04.30.2022 ALTITUDE 35 METER

15/07/22
 Narajole Raj College
 Paschim Medinipur
 West Bengal





NARAJOLE RAJ COLLEGE
 (NAAC Accredited B Grade Govt. – Aided College)
 NARAJOLE: PASCHIM MEDINIPUR: PIN-721211
CAREER COUNSELLING CELL





NARAJOLE RAJ COLLEGE
 (NAAC Accredited B Grade Govt. – Aided College)
 NARAJOLE: PASCHIM MEDINIPUR; PIN-721211
 CAREER COUNSELLING CELL



HJ75+W49, Narajole, West Bengal 721211, India
 Latitude: 22.566259° Longitude 87.604612°
 LOCAL 10:39:33 GMT 05:09:33 SATURDAY 04.30.2022 ALTITUDE -80 METER



HJ84+G3P, Medinipur Ln, Kismat Narajole, West Bengal 721232, India
 Latitude: 22.566223° Longitude 87.604515°
 LOCAL 10:40:54 GMT 05:10:54 SATURDAY 04.30.2022 ALTITUDE -53 METER

15/07/22
 Narajole Raj College
 Paschim Medinipur




HJ84+G3P, Medinipur Ln, Kismat Narajole, West Bengal 721232, India
 Latitude: 22.566233° Longitude 87.604461°
 LOCAL 10:53:24 GMT 05:23:24 SATURDAY 04.30.2022 ALTITUDE -30 METER



NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Govt. – Aided College)
NARAJOLE: PASCHIM MEDINIPUR: PIN-721211



CONSTITUTION OF YOGA CENTRE

(w.e.f. June 21, 2022)

- * Dr. Ranajit Kumar Khalua. – Vice Principal and Chaiman, Yoga Centre.
- * Prof. Bholanath Mahato. – Assistant Professor, Dept. of Philosophy, Convenor of this Yoga Centre.
- * Dr. Atanu Nanda. - Assistant Professor, Dept. of Physical Education as Member.
- * Prof. Nandita Bhakat - Assistant Professor, Dept. of Botany as Member.
- * Prof. Partha Kumar Manna. –State Aided College Teacher ,Dept. of Physical Education as Member.
- * Prof. Singray Tudu. - Assistant Professor, Dept. of Philosophy as Member.
- * Dr. Rabindranath Maity. –State Aided College Teacher, Dept. of Sanskrit as Member.
- * Dr. Uttam Kumar Singha – State Aided College Teacher ,Dept. of Sanskrit as Member.
- * Prof. Bilas Samanta. –State Aided College Teacher ,Dept. of History as Member.
- * Prof. Prasenjit Senapati. –State Aided College Teacher ,Dept. of Political Science as Member.
- * Prof. Supen Sarkar. - Assistant Professor, Dept. of Political Science as Member.
- * Dr. Sukamal Maity. – State Aided College Teacher ,Dept. of Geography as Member.
- * Prof. Tumpa Jana. - Assistant Professor, Dept. of Sanskrit as Member.



A Value – added Course on Yoga & Meditation : This Value – added Course on Yoga & Meditation is carried out through Offline Mode by the Yoga Centre of the Narajole Raj College .

A Syllabus was assigned to them .The classes of this course were taken from 21.06.2022 to 20.09.2022 through offline mode.

Fifty students (50) were enrolled . In this context it is good to state that The Physical Education Foundation of India (PEFI) , West Bengal Chapter extends its collaboration with the Yoga Centre , Narajole Raj College in the academic session 2022-2023.

Details of the experts / Yoga Trainers :

1 .Name : Prof. Bholanath Mahato.

Designation: Assistant Professor.(Philosophy)

Qualification: M.A. in Philosophy.

Professional qualification: The Art of Living Teacher.

Other qualification: UGC-NET.

2. Name: Prof.Nandita Bhakat.

Designation: Assistant Professor.(Botany)

Qualification: M.Sc. in Botany.

Professional qualification: B.Ed.

Other qualification: W.B.SET.

3. Name : Dr. Atanu Nanda.

Designation: Assistant Professor.(Physical Education)

Qualification: M.A. , Ph.D.

Other qualification: Short term Course in Yoga.



Learning Outcome & necessity of the course:

- * Students can easily learn different types of Yoga, Meditation and Pranayama.
- *To culture a habit of regular Yoga and Meditation practice.
- *To increase the body flexibility as well as mental peace.
- *To make the students aware towards the benefits of Yoga and Meditation.
- * Right way to think for something or someone.
- *How to be motivated by one's own self.
- * How to remove the pessimistic aspects of life.
- * How to utilize the present moment.



Prof. Bholanath Mahato.
Convenor, Yoga Centre.
Narajole Raj College.



NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Yoga Centre

Registered candidates of VAC on Yoga & Meditation

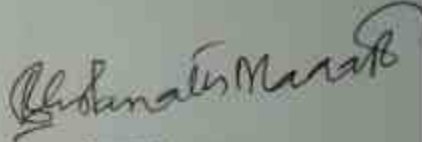
Roll no.	Name
01.	Parsharan Jana.
02.	Prasmit Das.
03.	Rehmi Dolai.
04.	Supriya Samanta.
05.	Pinki Dolui.
06.	Mansu Bera.
07.	Puja Jana.
08.	Mansoni Mondal.
09.	Bhuban Hait.
10.	Papiya Maji.
11.	Tithi Patra.
12.	Somali Paramanik.
13.	Mansu Dhara.
14.	Asli Jana.
15.	Partha Bagra.
16.	Akash Maji.
17.	Malay Rana.
18.	Tithi Chakraborty.
19.	Debika Roy.
20.	Rajesh Hait.
21.	Ananya Mondal.
22.	Mandira Dolai.
23.	Mangshu Khatua.
24.	Sami Pathak.
25.	Piyel Pattanayak.
26.	Manshu Ghose.
27.	Piyali Pattanayak.
28.	Tapani Mondal.
29.	Mousmita Subud.
30.	Puja Mondal.
31.	Arjali Khanna.
32.	Medina Patra.
33.	Kimpa Pal.
34.	Krishna Adhikary.
35.	Susmita Maitty.
36.	Suman Jana.
37.	Tulsi Paria.
38.	Papra Dolai.
39.	Madhurita Dhara.
40.	Basanti Sontro.
41.	Purnima Ghosal.
42.	Ganga Jana.

S. Ghosh



43. Bijoy Mondal.
44. Madhumita Samanta.
45. Sujit Kundu.
46. Priyanka Pramanik.
47. Pinki Chowdhury.
48. Baishakhi Dolai.
49. Soutmen Jana.
50. Surajit Dal.

N.B : Classes will be held in room no 5-6.


Convenor
Yoga Centre
Narajit Rai College





NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Yoga Centre

Tentative course schedule for VAC on Yoga & Meditation

Date	Time	Topic	Name of the trainer/trainers.
21/06/2022	9:00-10:00	Introduction of Yoga & Meditation & Benefits.	Prof. Bholanath Mahato, Prof. Nandita Bhakat, Dr. Atanu Nanda.
22/07/2022	9:00-10:00	Free hand exercises & Benefits.	Prof. Bholanath Mahato.
23/07/2022	9:00-10:00	Free hand exercises & Benefits. 2	Prof. Bholanath Mahato.
28/07/2022	9:00-10:00	Surya Namaskar & Benefits.	Prof. Bholanath Mahato.
29/07/2022	9:00-10:00	Surya Namaskar & Benefits. 2	Prof. Bholanath Mahato.
04/08/2022	9:00-10:00	The relation between yoga & meditation along with benefits.	Prof. Bholanath Mahato.
05/08/2022	9:00-10:00	Important of meditation.	Prof. Bholanath Mahato.
06/08/2022	9:00-10:00	Bajrasana, Vastrika Pranayama & its benefits Vastrika.	Prof. Bholanath Mahato.
08/08/2022	9:00-10:00	Gorurasana, Gomukhasana & benefits.	Dr. Atanu Nanda.
10/08/2022	9:00-10:00	Padmasana, Vujanpasana & its benefits.	Prof. Nandita Bhakat.
12/08/2022	9:00-10:00	Salvasana, Brikshasana & its benefits.	Prof. Bholanath Mahato.
13/08/2022	9:00-10:00	Meditation for Inner peace.	Prof. Bholanath Mahato.
17/08/2022	9:00-10:00	Bajrasana, Ushtrasana & benefits.	Prof. Nandita Bhakat.
20/08/2022	9:00-10:00	Astanga Yoga: yama, niyama, asana & benefits.	Prof. Bholanath Mahato.
22/08/2022	9:00-10:00	Pranayam, Pratyahar, Dharana & benefits.	Prof. Bholanath Mahato.
25/08/2022	9:00-10:00	Bhadrasana, Dhruvasana & benefits.	Dr. Atanu Nanda.
28/08/2022	9:00-10:00	Dhyana, Samadhi & benefits.	Prof. Bholanath Mahato.

27/08/2022	9:00-10:00	Free hand excercises & benefits	Prof.Nandita Bhakat
29/08/2022	9:00-10:00	Anulom - Bilom & benefits.	Prof.Bholanath Mahato.
30/08/2022	9:00-10:00	The benefits Vastrika.	Prof.Bholanath Mahato.
01/09/2022	9:00-10:00	Sarbangasana,Paschimasana & benefits.	Prof.Nandita Bhakat.
02/09/2022	9:00-10:00	Bhadrasana ,Dhanurasana& benefits.(2)	Dr. Atanu Nanda.
03/09/2022	9:00-10:00	Halasana,Padahasana & benefits.	Dr. Atanu Nanda.
09/09/2022	9:00-10:00	Sarbangasana,Paschimasana & benefits.(2)	Prof.Nandita Bhakat
10/09/2022	9:00-10:00	Halasana,Padahasana & benefits.(2)	Dr. Atanu Nanda.
12/09/2022	9:00-10:00	Gorurasana, Gomukhasana & benafits.(2)	Dr. Atanu Nanda.
13/09/2022	9:00-10:00	Free hand excercises & benefits(2)	Prof.Nandita Bhakat
17/09/2022	9:00-10:00	Padmasana , Vujangasana & its benefits.	Dr. Atanu Nanda.
19/09/2022	9:00-10:00	Padmasana , Vujangasana & its benefits.(2)	Prof.Nandita Bhakat
20/09/2022	9:00-10:00	Bajrasana,Ushtrasana & benefits.	Prof.Nandita Bhakat

N.B : Classes will be held in room no.S-6.

Bholanath Mahato

Convenor
Yoga Centre
NarajoleRaj College

Convenor
Yoga Centre
Narajole Raj College
Narajole, PIN: 721211



NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE - PASCHIM MEDINIPUR, PIN-721211



Value Added Course on Yoga and Meditation

Syllabus for VAC on Yoga & Meditation

Part A: Yoga

- | | |
|---|-------------|
| 1. Yoga and its important. | 3 Classes.) |
| 2. Free hand exercises . | 3 Classes.) |
| 3. Surya Namaskar . | 3 Classes) |
| 4. Padmasana and Bhujangasana. | 2 Classes) |
| 5. Salvasana and Brikhasan. | 2 Classes) |
| 6. Rajasana and Ushtrasan, Padahasthasag. | 2 Classes) |
| 7. Gorudhasana and Gamukhasana. | 2 Classes) |
| 8. Vadasana and Dhanurasana. | 2 Classes) |
| 9. Dhanurasana and Halasana . | 2 Classes) |
| 10. Sarvangasana and Paschimatanasana. | 2 Classes) |

Part B: Asatantga Yoga (3 Classes)

The eight limbs of yoga are yama (abstinences), niyam (observances), asana (yoga postures), pranayama (breath control), pratyahara (withdrawl of senses), dhazana (concentration), dhyana (meditation) and samadhi (absorbition).

Part C: Meditation

Prayer through mantra chanting. 1 Class.

Meditation for inner peace (1 Class)

Anulom-Silom (1 Class)

Vastrika (1 Class.)

Priyanka Pranita Mondal,

Signature of the IQAC Coordinator
Narajole Raj College

CO-ORDINATOR,
IQAC
NARAJOLE RAJ COLLEGE
NARAJOLE, PASCHIM MEDINIPUR

Signature of the External Expert
With designation & affiliation

Secretary
PEPI, West Bengal Chapter India

NARAJOLE RAJ COLLEGE
 (NAAC Accredited B Grade Government Aided College)
 NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Yoga Centre

Roll no.	Name
01.	Panchanan Jara.
02.	Prasenjit Das.
03.	Rebati Dolai.
04.	Supriya Samanta.
05.	Pinki Dolai.
06.	Manas Bera.
07.	Puja Jana.
08.	Mamoni Mondal.
09.	Bhuban Hait.
10.	Papiya Maji.
11.	Tithi Patra.
12.	Somali Paramanik.
13.	Manju Dhara.
14.	Asit Jana.
15.	Partha Bogra.
16.	Akash Maji.
17.	Malay Rana.
18.	Tithi Chakraborty.
19.	Debika Roy.
20.	Rajesh Hait.
21.	Ananya Mondal.
22.	Mandira Dolai.
23.	Manjushri Khatua.
24.	Soma Pathak.
25.	Payel Pattanayak.
26.	Manisha Shee.
27.	Piyali Pattanayak.
28.	Tapasi Mandal.
29.	Moumita Sabud.
30.	Puja Mandal.
31.	Anjali Khanna.
32.	Molana Patra.
33.	Ritupa Pal.
34.	Krishna Adhikary.
35.	Saxmita Maitty.

No. Present daily	
No. Absent daily	
TOTAL	

SHREYA TRADERS, 49 JALPAIGURI LANE, KOLKATA - 700 010

ANCE OF PU
 OF June 18
ANCE

Roll no.	Name	Attendance
01.	Panchanan Jara.	✓
02.	Prasenjit Das.	✓
03.	Rebati Dolai.	✓
04.	Supriya Samanta.	✓
05.	Pinki Dolai.	✓
06.	Manas Bera.	✓
07.	Puja Jana.	✓
08.	Mamoni Mondal.	✓
09.	Bhuban Hait.	✓
10.	Papiya Maji.	✓
11.	Tithi Patra.	✓
12.	Somali Paramanik.	✓
13.	Manju Dhara.	✓
14.	Asit Jana.	✓
15.	Partha Bogra.	✓
16.	Akash Maji.	✓
17.	Malay Rana.	✓
18.	Tithi Chakraborty.	✓
19.	Debika Roy.	✓
20.	Rajesh Hait.	✓
21.	Ananya Mondal.	✓
22.	Mandira Dolai.	✓
23.	Manjushri Khatua.	✓
24.	Soma Pathak.	✓
25.	Payel Pattanayak.	✓
26.	Manisha Shee.	✓
27.	Piyali Pattanayak.	✓
28.	Tapasi Mandal.	✓
29.	Moumita Sabud.	✓
30.	Puja Mandal.	✓
31.	Anjali Khanna.	✓
32.	Molana Patra.	✓
33.	Ritupa Pal.	✓
34.	Krishna Adhikary.	✓
35.	Saxmita Maitty.	✓

15/07/24



- 43. Biloy, Mironchik
- 44. Madhramita Samant
- 45. Sigit, Karucha
- 46. Priyanka Pyramok
- 47. Pitali, Chirodhanjy
- 48. Rabibakhi, David
- 49. Soumen, Janta
- 50. Surenjit, Dal

NAME	FOR THE MONTH							REMARKS
	ATTEND -							
	S	M	T	W	T	F	S	
Biloy, Mironchik	✓	✓	✓	✓	✓	✓	✓	
Madhramita Samant	✓	✓	✓	✓	✓	✓	✓	
Sigit, Karucha	✓	✓	✓	✓	✓	✓	✓	
Priyanka Pyramok	✓	✓	✓	✓	✓	✓	✓	
Pitali, Chirodhanjy	✓	✓	✓	✓	✓	✓	✓	
Rabibakhi, David	✓	✓	✓	✓	✓	✓	✓	
Soumen, Janta	✓	✓	✓	✓	✓	✓	✓	
Surenjit, Dal	✓	✓	✓	✓	✓	✓	✓	

Nil. Present daily
Nil. Absent daily
TOTAL

DATE: 15/11/2024
BY: [Signature]

OF 100
100%

ANCE

100%

No. of classes will be held in accordance

Dr. [Signature]
Captain
Yash Chavhan
Sangli College
Sangli, Dist. Solapur



The President

Governing Body

Narajole Raj College

Through:

The Vice Principal

Narajole Raj College

&

IQAC Coordinator

Narajole Raj College

Sub: Approval of syllabus of Value Added Course on YOGA AND MEDITATION

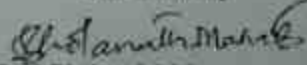
Sir,

With reference to the proposal of the Value Added Course on YOGA AND MEDITATION submitted to the IQAC by the YOGA CENTRE, Narajole Raj College on 16/06/2022 and the meeting held on 18/06/2022 of the BOS constituted for the approval of the syllabus, I do kindly inform you that the course syllabus has been approved by our External Expert, PROF.(DR)DEBA PRASAD SAHU, PRINCIPAL, SEVA BHARATI MAHAVIDYALAYA, JHARGRAM, WEST BENGAL (via Meeting Resolution No. 02 dt.18/06/2022. The ratification of the syllabus is duly attested and acknowledged below by our External Expert for the purpose of authentication and documentation.

I would, therefore, request you to consider the relevant documents attached herewith and to facilitate the introduction of the course in the next semester.

Thanking you,

Yours faithfully,


(Prof. Bholanath Mahato)

Assistant Professor

Department of Philosophy

Narajole Raj College

The syllabus of the Value Added Course on YOGA AND MEDITATION is hereby approved at the meeting of the BOS held on 18/06/2022 at Narajole Raj College.

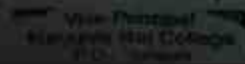

Signature of the External Expert with date

Designation & Affiliation

Secretary
PPT, West Bengal Chamber of Education

Forwarded by:


1) Signature of the Vice Principal with date in official seal


Vice-Principal
Narajole Raj College
P.O. Narajole






Physical Education Foundation of India

National Sports Promotion Organisation

Recognised by

Ministry of Youth Affairs & Sports (Government of India)

West Bengal Chapter

415428.06.2008

MEMBERS

President

Arjan Biswas

Vice-President

Pranendu Pradhan
Pradyumn Mukhopadhyay
Sankar Chatterjee
Sudesh Ranjan Panigrahi
Sujit Bose

Secretary

Deba Prasad Sahu

Joint Secretary

Dr. Samalya Roy
Dr. Prasan Chatterjee

Treasurer

Mr. Subhadip Pal

Program Director

Dr. Mahabubul Karim
Dr. Subhadip Pal
Dr. Samalya Roy

Ref. No.:

Date:

To
The Vice Principal
Narajole Raj College
Narajole, Paschim Medinipur
West Bengal, India

From
Dr. Deba Prasad Sahu
Secretary
PEFI, West Bengal Chapter
India

Sub: Collaboration between Narajole Raj College and the Physical Education Foundation of India (PEFI), West Bengal Chapter.

Sir,

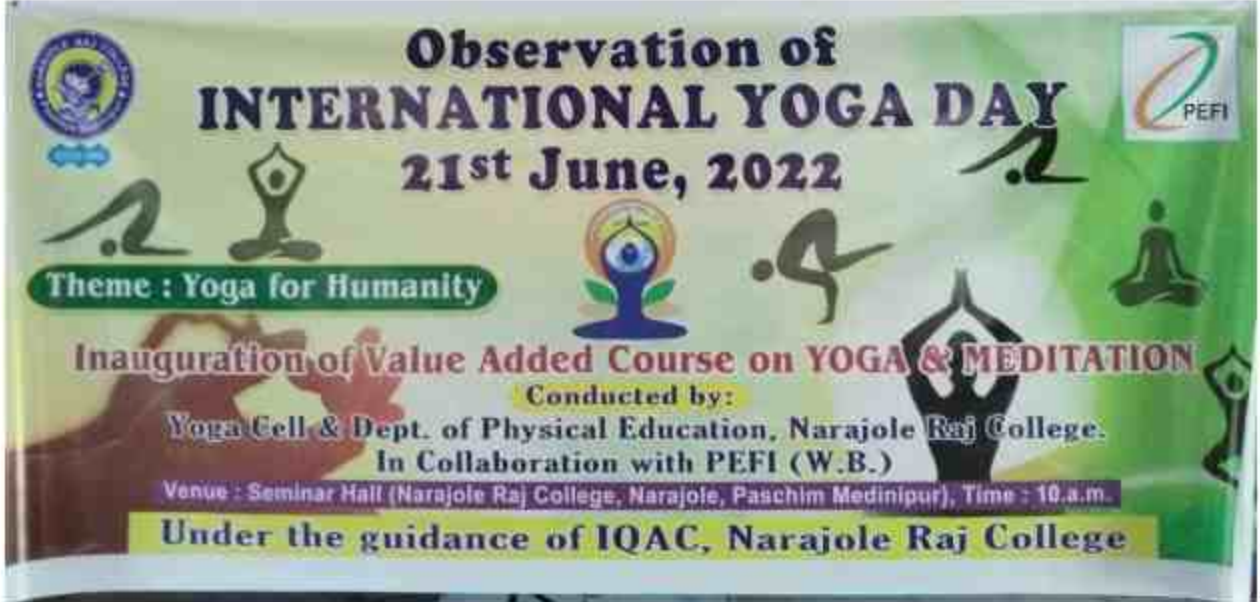
I gladly inform you that as discussed in the BOS convened by you on 18.06.2022, the Physical Education Foundation of India (PEFI), West Bengal Chapter extends its collaboration with the Yoga Centre, Narajole Raj College, to offer the Value-Added Course on Yoga and Meditation in Narajole Raj College from June to December 2022 in the academic session 2022-23. I hope that this collaboration will benefit the students and will add value to the course.

Thank you.

Secretary
PEFI, West Bengal Chapter India

15/07/22





**Observation of
INTERNATIONAL YOGA DAY
21st June, 2022**

Theme : Yoga for Humanity

Inauguration of Value Added Course on YOGA & MEDITATION
Conducted by:
Yoga Cell & Dept. of Physical Education, Narajole Raj College.
In Collaboration with PEFI (W.B.)

Venue : Seminar Hall (Narajole Raj College, Narajole, Paschim Medinipur), Time : 10.a.m.

Under the guidance of IQAC, Narajole Raj College

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15/07/22
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Kishor Kumar



OPB Map Camera

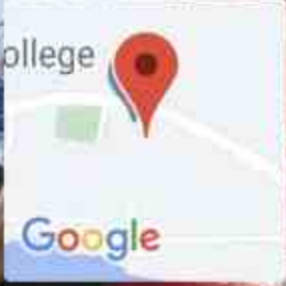


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West Bengal 721232, India
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Official circular stamp of Kismat Narajole College.



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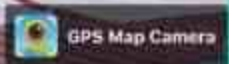
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KISHORE KUMAR COLLEGE
KISMAT NARAJOLE
WEST BENGAL



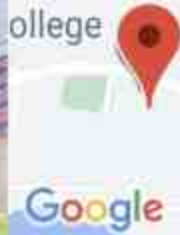
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15/07/22
KISMAT NARAJOLE V.P.U. COLLEGE







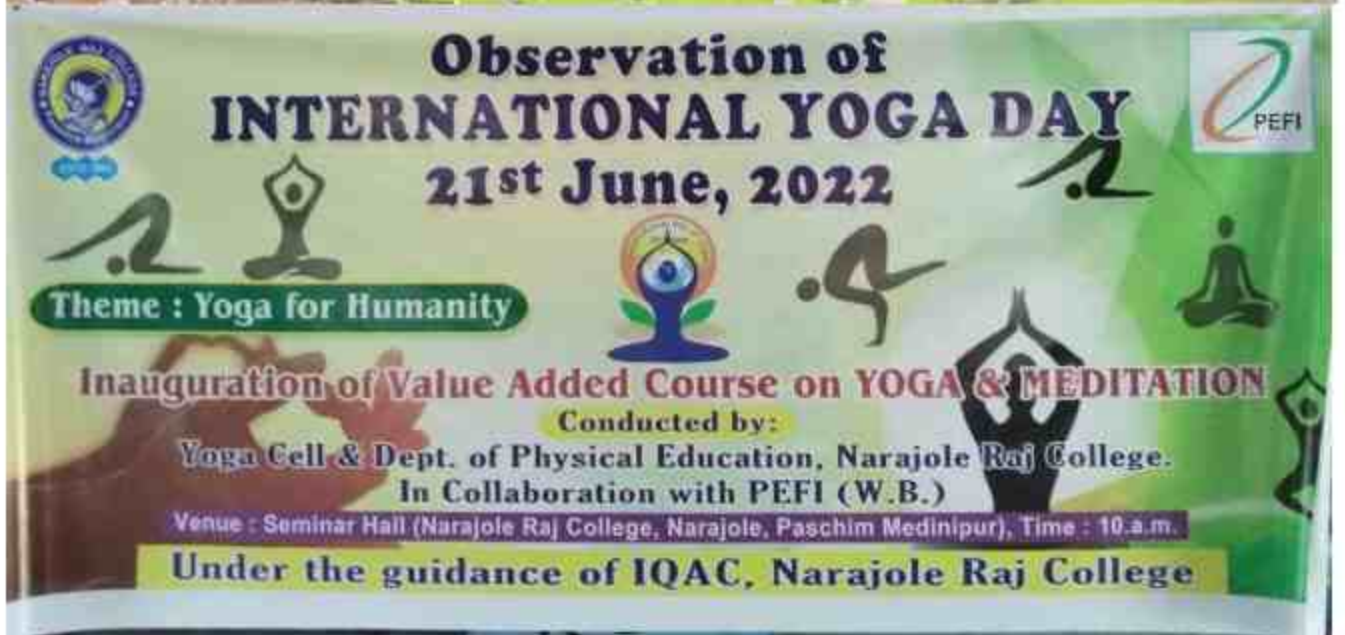
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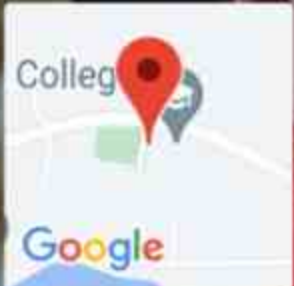
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NARAJOLE RAJ COLLEGE
(NAAC Accredited 'B' Grade Govt. Aided College)
NARAJOLE, PASCHIM MEDINIPUR, WEST BENGAL, Pin-721211
Phone and Fax: +91- 9933881131; E-mail: nrajoleracollege@rediffmail.com
Website: <http://www.narajolerajcollege.ac.in>



A Drive for Eradication of *Parthenium* from college campus and adjoining areas organized by Green Club in collaboration with NSS Unit-I & Unit-II

Summary Report: Parthenium Eradication Drive

Date: June 29, 2022

Organizers: NSS Unit-I and NSS Unit-II in collaboration with the Green Club

Introduction:

Upon the reopening of the college after the Covid-19 lockdown, it was observed that the campus and surrounding areas were infested with Parthenium, an invasive plant species. The abundance of Parthenium posed health risks due to respiratory issues and skin allergies caused by its spores.

Rationale:

Parthenium, being a harmful plant species, necessitated urgent eradication efforts to safeguard the health of individuals and animals in the vicinity. The spread of Parthenium during the lockdown period prompted the need for a comprehensive eradication program.

Plan of Action:

Members of the Green Club collaborated with NSS units and botany department students and teachers to devise a plan for manual eradication of Parthenium. Led by Mr. Pashupati Maity, the college gardener, the team decided on June 29, 2022, as the designated day for the drive. Protective gear including gloves, masks, and head caps were procured to ensure the safety of participants.

Program Schedule:

The drive commenced at 10 am, with participants donning protective gear for safety. Identifying Parthenium plants, the team proceeded to manually remove them from the college campus and surrounding areas. The enthusiastic participation of students and members lasted until 2 pm, ensuring thorough eradication efforts.

Outcome:

The activity yielded significant results, with the college campus and adjoining areas being nearly free of Parthenium plants. The eradication drive successfully mitigated the health risks associated with Parthenium, benefiting both humans and grazing animals in the locality.

This report underscores the successful execution of the Parthenium eradication drive, emphasizing the collaborative efforts of the Green Club, NSS units, and botany department in achieving a Parthenium-free environment for the college campus and surrounding areas.



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Selected Photos:



Handwritten signature and date: 15/7/20





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Observation of World Toilet Day organized in collaboration with NSS Unit-I and NSS Unit-II on 19.11.2022 in Harirajpur Primary School.

****Report on World Toilet Day Seminar****

****Date:**** November 19, 2022

****Venue:**** Harirajpur Primary School

****Introduction:****

On the occasion of World Toilet Day the NSS Units I & II and the Green Club, under the guidance of IQAC, Narajole Raj College, organized an interactive discussion on "Health, Hygiene and Sanitation Practices in Post Covid Times" at Harirajpur Prathamik Vidyalaya, Nij Narajole on 19.11.2022. Prof. Sanjay Kumar Dutta was the speaker and he tried to generate awareness among the students so that they can bring about a change at school, at home and outside. Dr. Arpita Chakraborty introduced the theme of today's presentation. Pragna Paramita Mondal, IQAC Coordinator interacted with the students and received their feedback regarding the things that they learnt from the lecture. Dr. Parimal Dua also encouraged the students to practice personal hygiene in their daily lives. NSS Officers Prof. Anustup Chattopadhyaya and Dr. Sk Mohammad Aziz were also present at the programme.

****Attendees:****

The seminar was attended by members of the Green Club, NSS Unit I and II, and faculty members including Prof. Anustup Chattopadhyaya, Dr. Sk Mohammad Aziz, and Prof. Pragna Paromita Mandal, the IQAC coordinator. Approximately 75 students from various classes were present.

****Seminar Overview:****

The seminar commenced with an introductory speech by the Green Club's convenor, followed by remarks from Prof. Mandal highlighting the significance of World Toilet Day. Prof. Sanjay Kumar Datta, a respected educator from Narajole Raj College, then delivered an informative talk on health, hygiene, and sanitation practices in post-Covid times. Prof. Datta's presentation captivated the audience, and students actively engaged by asking insightful questions.

****Outcome:****

The seminar successfully achieved its objective of raising awareness about health and hygiene among the students. It is expected that the discussions held during the session will contribute towards fostering a cleaner and healthier environment in the community.

****Conclusion:****

The World Toilet Day seminar served as a platform to educate and empower students on essential health and hygiene practices. The collaboration between the Green Club, NSS units,

15/11/22



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Website: <http://www.narajolerajcollege.ac.in>

and faculty members ensured the event's success in promoting a cleaner and healthier community.

****Speaker's Profile:****

Prof. Sanjay Kumar Datta has been serving as a State Aided College Teacher in the Department of Botany at Narajole Raj College since 1997. He holds an M.Sc and B.Ed and is renowned for his exceptional teaching skills and oratory prowess.

This report highlights the significance of World Toilet Day and the efforts undertaken to promote health and hygiene awareness among students.

Selected Photograph





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Harirajpur, West Bengal, India
HH7V+MFD, Keshpur-Despur Rd, Harirajpur,
West Bengal 721232, India
Lat 22.56415°
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Harirajpur, West Bengal, India
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India
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NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Report on Workshop & Hands-on Training
on

Using Google Classroom as a Learning Management System (LMS) Tool

The IQAC, Narajole Raj College, organized a "Workshop & Hands-on Training on Using Google Classroom as a Learning Management System (LMS) Tool" for the teaching faculty of the institution on 20th January 2023. Our Vice Principal, Dr. Ranajit Kumar Khalua, presided over the session and encouraged all faculty members to participate actively during the workshop. He also announced the outline of the LMS that the college is about to implement and the peer mentoring system that would put it in place. Dr. Tapanendu Kamilya and Dr. Avradip Pradhan, from the Dept. of Physics and both Members of the IQAC of the college, conducted the Technical Session of the workshop in a lively and interactive manner offering real-time demonstrations of the enormous possibilities of this software design. All faculty members were excited and enthusiastic about the convenience and user-friendliness of this application and the prospect of integrating our teaching and curricular resources with this new learning management system. IQAC Coordinator, Prof. Pragna Paramita Mondal, was the convener of the workshop. She indicated that the college has so far explored online education through both synchronous and asynchronous modes of learning and pedagogy and that this workshop marks the initiation of a centralized system of learning management that will be adopted uniformly by all academic departments. The implementation phase of this LMS will be supervised by our Chief Advisor, Prof. Barun Rout, who is the Joint Convener of the Technology Sub-Committee of the college. The workshop ended with a vote of thanks to the Vice Principal, the invited speakers, the chief advisor and all faculty members who attended the training schedule.



INVITATION

Dear Sir/Madam,

We are glad to inform you that the IQAC, Narajole Raj College, is going to organize a "Workshop & Hands-on Training on Using Google Classroom as a Learning Management System (LMS) Tool" on 20th January, 2023 at 1:00 p.m. in the Seminar Hall. We solicit your active participation in the workshop.

Dr. Ranajit Kumar Khaliua
Chief Patron &
Vice Principal
Narajole Raj College

Pragna Pasarnita Mondal
Convener
Coordinator, IQAC,
Narajole Raj College

Invited Speakers

Dr. Tapasendu Karmaliya
Associate Professor, Dept. of Physics & Member,
IQAC, Narajole Raj College

Dr. Avradip Pradhan,
Assistant Professor, Dept. of Physics & Member,
IQAC, Narajole Raj College

Chief Advisor:
Prof. Barun Rout
Joint Convener, Technology Sub-Committee,
Narajole Raj College

Technical Support:
Technology sub-Committee, Narajole Raj College

NARAJOLE RAJ COLLEGE

(NAAC Accredited "E" Grade Govt. Aided College)



presents

Workshop & Hands-on Training on Using Google Classroom as a Learning Management System (LMS) Tool

20th January, 2023

Venue: Seminar Hall Time: 1:00 p.m.

Organized by
IQAC

Narajole Raj College, Paschim Medinipur - 721211





DRG
 15/01/20





NARAJOLE RAJ COLLEGE

(NAAC Accredited B Grade Govt. – Aided College)

NARAJOLE: PASCHIM MEDINIPUR: PIN-721211

CONSTITUTION OF YOGA CENTRE

(w.e.f. July, 2022_ June,23)

- Dr. Basudev Mandal. – Principal and Chaiman, Yoga Centre.
- Dr. Bholanath Mahato. – Assistant Professor,Dept. of Philosophy, Convenor of this Yoga Centre.
- Dr. Atanu Nanda. - Assistant Professor,Dept. of Physical Education as Member.
- Prof. Nandita Bhakat - Assistant Professor,Dept. of Botany as Member.
- Prof. Partha Kumar Manna. –State Aided College Teacher ,Dept. of Physical Education as Member.
- Prof. Singray Tudu. - Assistant Professor,Dept. of Philosophy as Member.
- Dr. Rabindranath Maity. –State Aided College Teacher,Dept. of Sanskrit as Member.
- Dr. Uttam Kumar Singha – State Aided College Teacher ,Dept. of Sanskrit as Member.
- Prof. Bilas Samanta. –State Aided College Teacher ,Dept. of History as Member.
- Prof. Prasenjit Senapati. –State Aided College Teacher ,Dept. of Political Science as Member.
- Prof. Supen Sarkar. - Assistant Professor,Dept. of Political Science as Member.
- Dr. Sukamal Maity. – State Aided College Teacher ,Dept. of Geography as Member.
- Prof. Tumpa Jana. - Assistant Professor, Dept. of Sanskrit as Member.

- **A Value – added Course on Yoga & Meditation** : This Value – added Course on Yoga & Meditation is carried out through Offline Mode by the Yoga Centre,which valedictory session was 1st Feb 2023 of the Narajole Raj College .



- **Student Enrolment:** Fifty students (50) were enrolled. In this context it is good to state that The Physical Education Foundation of India (PEFI) , West Bengal Chapter extends its collaboration with the Yoga Centre , Narajole Raj College in the academic session 2022-2023.
- **Syllabus of VAC on Yoga and Meditation:** A Syllabus was assigned to them. The classes of this course were taken from 12.07.2023 for six months through offline mode in two places i. e Vidhyasagar Bidyalaya and Mahamaya Prathamik Vidyalaya, Dubrajpur ,Paschim Medinipur.
- **International Yoga Day Celebration:** This yoga center celebrates International Yoga Day every year. The aim of this yoga center is how to develop a sense of awareness among the students and awaken their inner strength through various yoga, pranayama and meditation practices. As a result, they can easily move forward in life with renewed vigor keeping the mind stress-free and the body disease-free. This yoga center is serving in various ways for the new extension committee. For now, two schools have been adopted besides the college, where children are taught yoga pranayama and meditation every week. So that they can be quite helpful in their personality development along with studies.

Details of the experts / Yoga Trainers:

Dr. Bholanath Mahato.

Designation: Assistant Professor.(Philosophy)

Qualification: M.A. Ph .D in Philosophy.

Professional qualification: The Art of Living Teacher.

Other qualification: UGC-NET.

Prof.Nandita Bhakat.

Designation: Assistant Professor.(Botany)

Qualification: M.Sc. in Botany.

Professional qualification: B.Ed.

Other qualification: W.B.SET.

Dr. Atanu Nanda.

Designation: Assistant Professor.(Physical Education)

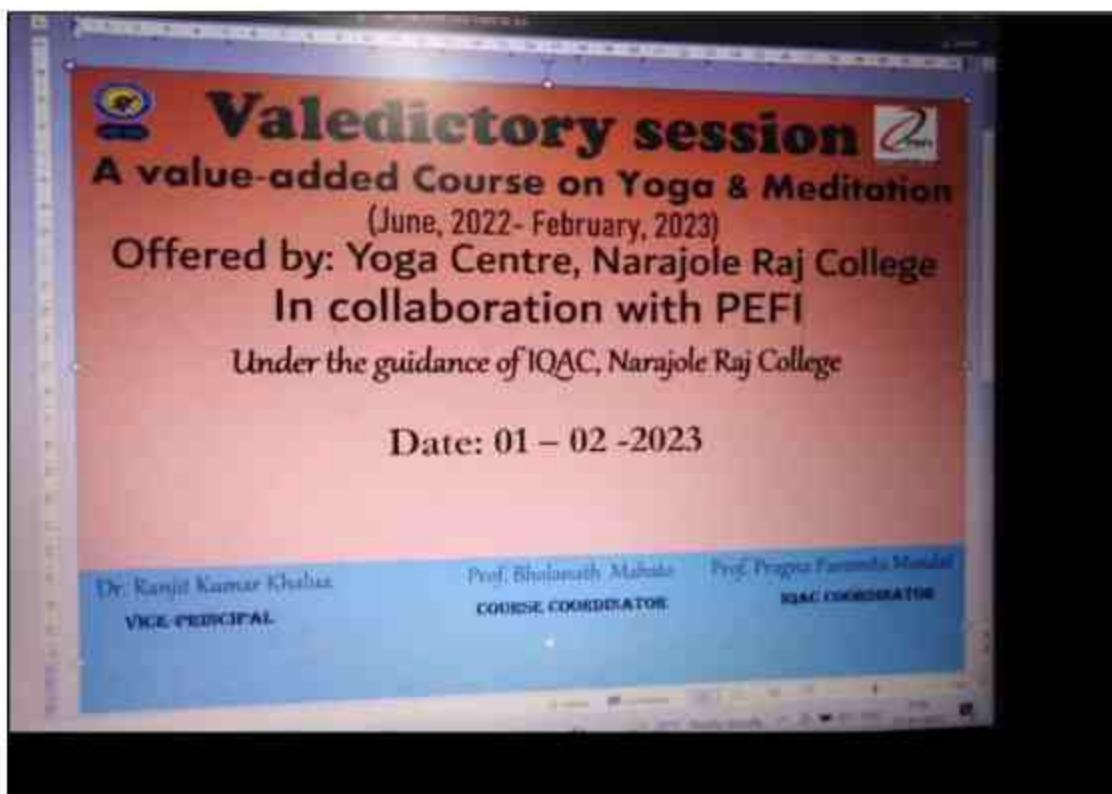
Qualification: M.A. , Ph.D.

Other qualification: Short term Course in Yoga.



Learning Outcome & necessity of the course:

- Students can easily learn different types of Yoga, Meditation and Pranayama.
 - *To culture a habit of regular Yoga and Meditation practice.
 - *To increase the body flexibility as well as mental peace.
 - *To make the students aware towards the benefits of Yoga and Meditation.
 - Right way to think for something or someone.
 - *How to be motivated by one's own self.
 - How to remove the pessimistic aspects of life.
 - How to utilize the present moment.
- Dr. Bholanath Mahato.
 - Convenor, Yoga Centre.
 - Narajole Raj College.





GPS Map Camera

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721232, India
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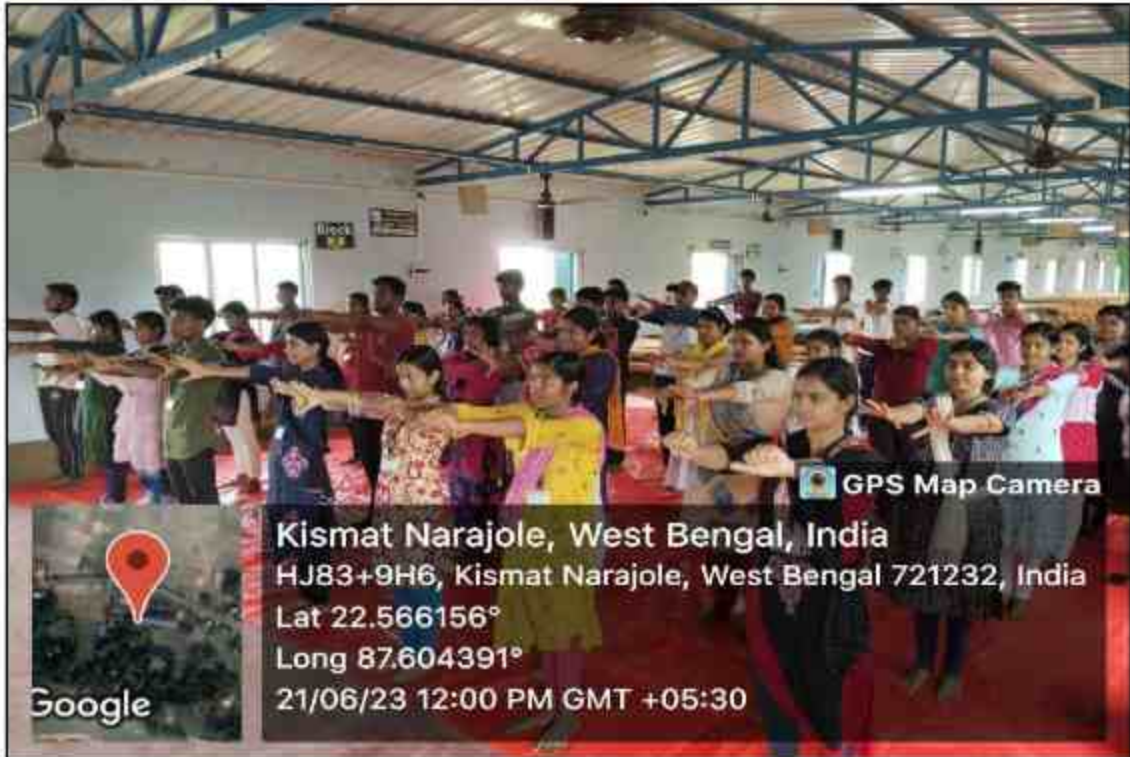


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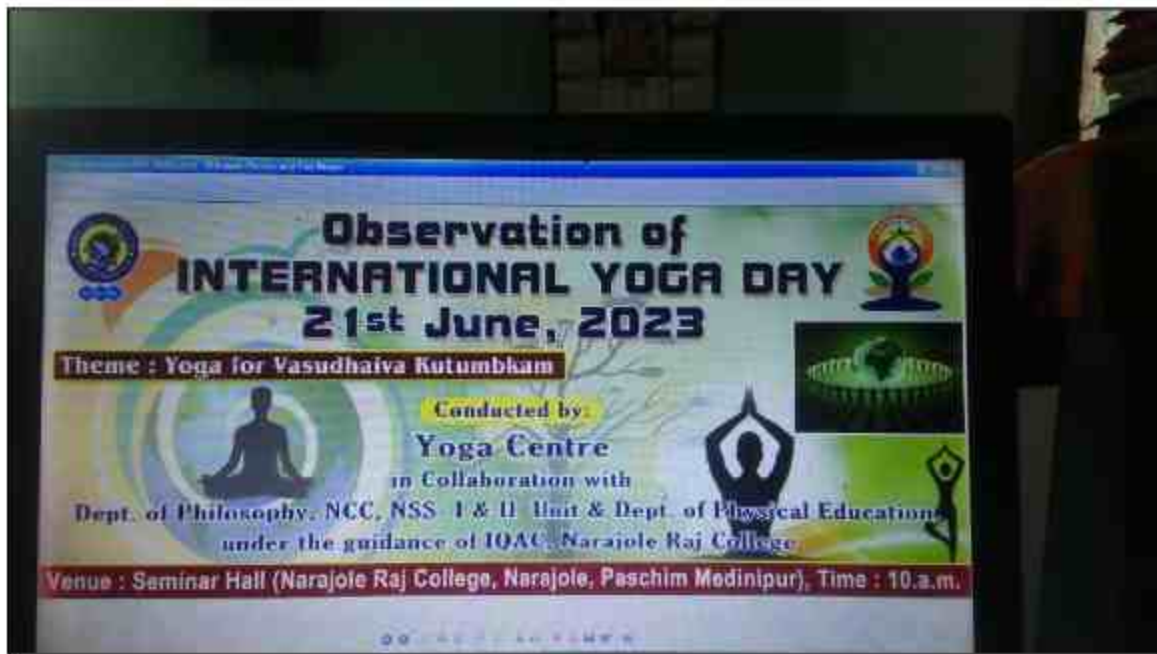
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NARAJOLE RAJ COLLEGE

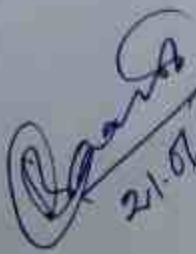
Participants List of Yoga Centre for the session- 2022-23

Sl no.	Name	Dept.	Sem.	Contact
1.	Tanmay Bisui	Bengali	4 sem	8293372645
2.	Souli Rani Bhunia	political science	iv	9874454975
3.	Suzekha Mana	political science	iv	6295641276
4.	Sohana parvin	political science	iv	9064288256
5.	Ganga Bhunia	political science	iv	8945889685
6.	Sabana Paswan	political science	iv	9736243792
7.	Malobika Dasai	political science	iv	6296108455
8.	Moumita Maishal	Bengali	iv	8116952346
9.	Suparna Ghosh	Bengali	iv	9679908008
10.	Ratni Maishal	Bengali	iv	7863904365
11.	Priyanka Dalai	Bengali	iv	8397889718
12.	Dipamrita Sabud	Bengali	iv	7029385645
13.	Monisha Pal	Bengali	iv	8410032511
14.	Andrajit Sing	History	(iv)	7601965166



15. Palash Ghanti	History	4 sem /	8944839159
16. Rakhi Sarda	History	4 sem /	7811035561
17. Anura Bena	History	4 sem /	8390091129
18. Rubi Bag	History	1 sem /	8653983365
19. Priya Gupta	History	4 sem /	9832020373
20. Radha Rani Jana	History	4 sem /	8250199761
21. Deblina Karo	Political Science (H)	4th sem	8509717857
22. Payel Mondal	Political Science (H)	1th sem	9641260087
23. Sudapa Das	History (H)	4th sem	964167923
24. Disha Jana	Sanskrit (H)	4th sem	9394052107
25. Anub Ghosh	B.A General	4th sem	(9635363105)
26. Dipankar Chakraborty	B.A General	4th sem	(9339334519)
27. Soumyadip Bhargi	B.Sc General	1st sem	(072527819)
28. Piyali Maity	B.A History (H)	6th sem	(7808873967)
29. Kabita Samanta	B.A (History) (H)	6th sem	(973537013)
30. Beauty Hanh	B.A (History) (H)	6th sem	(9907009355)
31. Asit Jana	B.A (History) (H)	6th sem	(833782809)
32. Aneta Mondal	B.A (History) (H)	6th sem	(990731588)

- | | | | |
|---------------------------|---------------|---------|------------|
| 33. Payel Mandal | History (H) | 6th Sem | 9883210781 |
| 34. Mahenur Khatun | History (H) | 6th Sem | 8918529094 |
| 35. Pooja Bhanja | History (H) | 6th Sem | 9883907955 |
| 36. Aparna Bera | History (H) | 6th Sem | 8509043188 |
| 37. Triya Shaw | History (H) | 6th Sem | 6295730926 |
| 38. Oisi Chattopadhyay | English (H) | 4th sem | 8001752029 |
| 39. Monisha Bairy | English (H) | 4th sem | 9400501182 |
| 40. Sabita Adhikary | English (H) | 4th sem | 7602956965 |
| 41. Borshakan | B.A (General) | 4th sem | 9064303015 |
| 42. Mou Bar | B.A (General) | 4th sem | 9749523508 |
| 43. Sulapa Chakrabarty | B.A (General) | 4th sem | 7407576609 |
| 44. Banishakhi Kar | B.A (H) | 4th sem | 8158049706 |
| 45. Julecha Parvin Khatun | Eng (H) | 4th sem | 7047217568 |
| 46. Ankita Dutta | Eng (H) | 4th sem | 7811062488 |
| 47. Abhrami Dolai | Eng (H) | 4th Sem | 7908477314 |
| 48. Bodhannestakhatun | Eng (H) | 4th sem | 8389936598 |
| 49. Panchanana Jua | Philosophy | 4th | 8436848594 |
| 50. Pinku Bolai | Philosophy | 4th | 8653983592 |


 21.06.2023 Yoga Centre
 Conchro,
 Dr. Bhadrakanti Mondal
 Narajole Raj
 College.

NARAJOLE RAJ COLLEGE



NAAC Accredited 'B' Grade College

ESTD.- 1966

Narajole ⊕ Paschim Medinipur

P.O.- NARAJOLE
DIST.- PASCHIM MEDINIPUR
PIN CODE- 721211
WEST BENGAL

Email: narajolerajcollege@rediffmail.com
Ph.- 03225-259755

Memo No. N.R.C./Adm./B.O./External/On Course/Bengali
24/2/2023

Date...17/02/2023

From: The Vice Principal

Narajole Raj College

Narajole, Paschim Medinipur

To: Dr. Sujoy Kumar Maiti
Associate Professor, Dept. of Bengali
Raja N.L.Khan Women's College

Sub: Invitation to join the BOS as External Expert for approving the syllabus of the Add on Course on Functional Bengali

Sir,

This is to kindly inform you that the Department of Bengali, Narajole Raj College, under the guidance of the IQAC, has submitted its proposal for offering an Add on course on Functional Bengali in the current academic session. The syllabus developed by the department has to be placed before the Board of Studies for approval and ratification. I would, therefore, humbly request you to join the BOS as the External Expert at the meeting to be held on 17.02.2023 at 9.00pm in Google Meet Platform and thereby facilitate the approval of the course.

I thank you for your kind cooperation.

17/02/2023

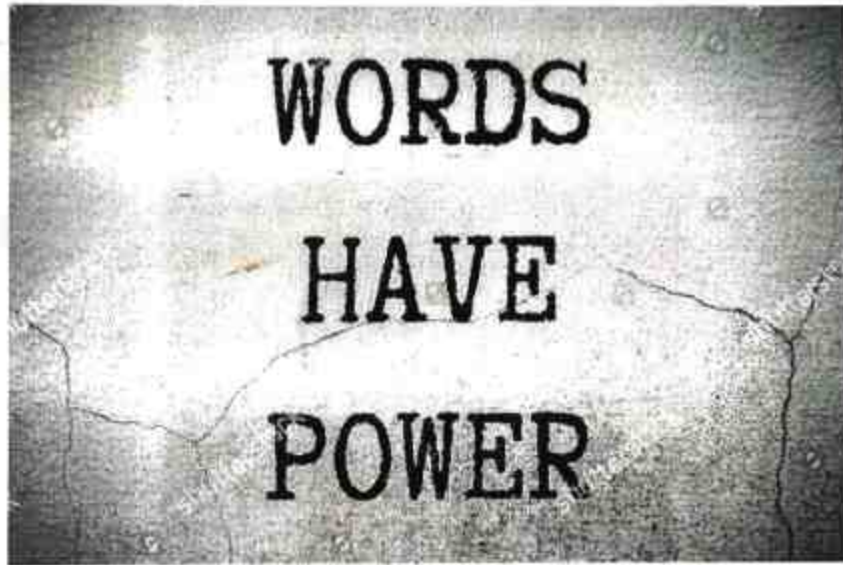


Signature: 17/02/2023
Signature of the Vice Principal

Dr. Renajit Kumar Khaliu
Vice-Principal
Narajole Raj College
Narajole, Pin - 721211



Narajole Raj College
Dept. of Bengali



An
Add - on Course
on
Functional Bengali



Commencement of Course : March 2023

Course Coordinator : Dr. Dipak Shom
Contact Number : 9732710845



Objective of the Course:

1. To empower the learner to communicate effectively and appropriately in real life situation.
2. Usage of Bengali productively for the purpose of study across the curriculum.
3. To develop interest in literature and its appreciation.
4. To integrate the use of the four language skills i.e., Reading, Listening, Speaking and Writing.
5. To reconsider and augment the structure already learnt.

Learning Outcome:

After completion of the course:

1. Students may develop a better communication skill which enables him/ her to act appropriately in real life situation.
2. It will integrate the use of the four language skills i.e., Reading, Listening, Speaking and Writing among the students.
3. Along with academia the course may prepare the students for Competitive Examinations.

Syllabus: Functional Bengali

33 contact hours along with evaluations.

Part A: Basic Theory -

- | | | |
|---|----|------------|
| 1. Functional Bengali - Scope and Definition | MB | 1 lecture |
| 2. Bengali Sytax | SP | 2 lectures |
| 3. Bangla Banan bidhi (Spelling rules in Bengali) | DS | 1 lecture |

Part B :

- | | | |
|--|--------------|------------|
| 1. Descriptive Writing - Essays, Personal letters, Dialogue Writing - techniques and Practices | SP + MB + Ae | 4 lectures |
| 2. Technical Writing - Reportage, Official letter Writing | GJ | 4 lectures |
| 3. Comprehension | MB | 2 lectures |
| 4. Proof reading (Bengali) | SP | 2 lectures |



Part C:

1. Bengali Grammar (Pada porichoy, Padatantor, Sandhi, Samas, Bagdhara, Probad-probochon, Dhawni poribortoner Sutraboli) (Asuddhi somsodhan, Bakya o Bachya Poriborton, Protisabda, Biporit Sobdo, Somoccharitobhinnaorthoksabda, Sabdarthotatto, sobdobhandar, Ekkothay prokash) *AC* 6 lectures

Part D :

1. Translations - Classification - Basics of translations - Problems in Bengali translations
- Brief discussion on Paribhasa and 'Bangla Poribhasa Kosh' 2 lectures
2. Translations - English to Bengali & Bengali to English. *M.H + S.A* 6 lectures

Part E :

1. Assignments 3 Classes
2. Oral presentations
3. Examinations

Eligibility:

All the graduating students of the college may join in this course.

Seat Capacity:

Maximum thirty (30) students will be accommodated in a batch.

Schedule:

The course will be offered twice in a year following the Academic Calendar of Odd and even semesters. Thirty-three (33) contact hours will be given for the completion of the course. The classes will be arranged beyond our regular teaching time i.e., before 10.00 am or after 5.00pm. If required, department may arrange virtual classes for the convenience of the students.





Registration / Application:

Students may get application forms in their parent departments and the admission of the course will be done on 'first come first serve' basis.

Evaluation and Certification:

Evaluation of the students will be done through home assignments and examinations. Students must attend all classes and must score at least 50% marks in their examinations for getting their certificates.

Fee Payment:

No Application fee / Course fee will be charged by the College for this course. Students have to pay a nominal charge of Rs 100/ for their certificates only.

About the Department:

One of the oldest departments of the college. Department runs both Undergraduate and Post graduate courses. Presently the department have Eight (08) faculties. The result of the department is very much satisfactory and progression statistics of the students from UG to PG is encouraging enough. Department have a departmental library of its own. The department maintains a cordial relation with its students and Alumni and vice versa to make the department as their 'second family'.

Information about the faculties involved with this course:

1.



Name: Dr. Nilanjana Bhattacharyya.

Designation: Associate Professor in Bengali Language and literature

Academic Qualifications: M.A.; M.Phil.; Ph.D





2.



Name :Dr. Sadhan Chandra Pandit

Designation: Assistant Professor in Bengali Language and literature

Academic Qualifications: M.A.; B.Ed.; Ph.D

3.



Name : Dipak Shom

Designation: Assistant Professor in Bengali Language and literature

Academic Qualifications: M.A.; B.Ed.; Ph.D

4.



Prof. Avijit Chakraborty

Designation: SACT

Academic Qualification: M.A.



Name :Prof. Milan Mondal

Designation: Assistant Professor in English

Academic Qualification: M.A.



6.



Name : Prof. Goutam Jana
Designation: SACT
Academic Qualifications: M.A. B. Ed



6.



Name : Prof. Sanat Pan
Designation: SACT
Academic Qualifications: M.A. B. Ed, M.Phil.

8.



Name : Prof. Samir Kuilya
Designation: SACT
Academic Qualification: M.A. B. Ed.



About the IQAC:

The Internal Quality Assurance Cell (IQAC) has been conceived by NAAC for the purpose of quality enhancement and sustenance within institutions. The prime task of the IQAC is to develop a system for conscious, consistent, and catalytic improvement in the overall performance of the college. The Add on Course (AOC) is an initiative taken by the IQAC of Narajole Raj College and will be administered as a Certificate Course by different academic departments to facilitate skill development among students.





NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE, PASCHIM MEDINIPUR: PIN-721211



Add - on Course on Functional Bengali

Notice

Dated: 01.03.2023

It is hereby notified that the Department of Bengali is going to offer an Add - on Course on Functional Bengali in the current semester. This Add - on Course (AOC) is a skill development course that is open to all students (B.A./B.Sc. Hons. & General) of the college. Interested students are asked to read the Brochure and the guidelines to find out about the scope, outcomes and outline of the course and to complete the registration procedure at the earliest. The seat capacity of the course is 30 and registration may be done on a first-come, first-served basis.

All students are asked to submit their names to their respective HODs within 06.03.2023 all students are asked to contact Dr. Dipak Shom regarding registration in the course within 11.03.2023.

Pragne Paramita Mondal
02.03.2023
Signature of the IQAC
Co-ordinator

CO-ORDINATOR,
IQAC
NARAJOLE RAJ COLLEGE
NARAJOLE, PASCHIM MEDINIPUR

Dipak Shom
02/03/2023
Signature of the
Course Co-ordinator

15/03/23



Dhananjay Shome
Signature of the
Vice Principal

Vice-Principal
Narajole Raj College
P.O. - Narajole
Dist. - Paschim Medinipur, Pin-721211



NARAJOLE RAJ COLLEGE
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Add-on Course on Functional Bengali

RESULT
FUNCTIONAL BENGALI - 2023

SL. NO	ROLL NO	STUDENTS' NAME	CLASS	DEPARTMENT	MARKS OBTAINED IN FINAL ASSESSMENT	REMARKS
1.	04	MUNMUN PATRA	6 TH SEMESTER	BENGALI	55/60	A+
2.	12	PAYEL DAS	6 TH SEMESTER	BENGALI	52/60	A+
3.	47	SUKANYA SANTRA	4 TH SEMESTER	BENGALI	55/60	A+
4.	26	MALLIKA MANA	4 TH SEMESTER	BENGALI	55/60	A+
5.	08	SONALI BERA	4 TH SEMESTER	BENGALI	46/60	A
6.	70	RAKHI MONDAL	4 TH SEMESTER	BENGALI	51/60	A+
7.	07	SAYANI JANA	4 TH SEMESTER	BENGALI	32/60	C
8.	62	PRITI KARAK	4 TH SEMESTER	BENGALI	48/60	A
9.	36	BHAGYASRI MONDAL	4 TH SEMESTER	BENGALI	50/60	A
10.	38	MOUMITA MONDAL	4 TH SEMESTER	BENGALI	52/60	A+
11.	01	PIJU RANI MAITY	4 TH SEMESTER	BENGALI	53/60	A+
12.	33	NABANITA PAL	4 TH SEMESTER	BENGALI	51/60	A+
13.	109	SOURAV SHETH	6 TH SEMESTER	BENGALI	46/60	A
14.	42	DIBYENDU DOLAI	6 TH SEMESTER	BENGALI	48/60	A
15.	91	ATASI KUNDU	6 TH SEMESTER	BENGALI	49/60	A
16.	51	PUJA PRAMANIK	4 TH SEMESTER	BENGALI	45/60	A
17.	12	MOUSUMI MAJI	4 TH SEMESTER	BENGALI	55/60	A+
18.	16	SEULI ADAK	4 TH SEMESTER	BENGALI	53/60	A+
19.	14	TANUSHREE BAGRA	4 TH SEMESTER	BENGALI	53/60	A+
20.	11	BARNALI DOLAI	4 TH SEMESTER	BENGALI	48/60	A
21.	15	SUTANUKA MANNA	4 TH SEMESTER	BENGALI	52/60	A+
22.	13	ANJANA DAS	4 TH SEMESTER	BENGALI	54/60	A+
23.	21	BALARAM DHAL	6 TH SEMESTER	BENGALI	42/60	A
24.	17	PRITI MONDAL	6 TH SEMESTER	BENGALI	51/60	A+
25.	05	PRIYA SINGHA	6 TH SEMESTER	BENGALI	51/60	A+
26.	50	SABITRI MUDI	4 TH SEMESTER	BENGALI	49/60	A
27.	89	KHUSHI BAITALICK	6 TH SEMESTER	BENGALI	46/60	A
28.	81	RINKU BERA	6 TH SEMESTER	BENGALI	46/60	A
29.	67	RAKHI DALBERA	4 TH SEMESTER	BENGALI	49/60	A

Signature
15/07/22
SIGNATURE
PRINCIPAL

Signature
Pragnya Palemita Mondal
SIGNATURE
IQAC CO-ORDINATOR

Signature
Dipak Ghose
SIGNATURE
COURSE CO-ORDINATOR



CO-ORDINATOR,
IQAC
NARAJOLE RAJ COLLEGE
NARAJOLE, PASCHIM MEDINIPUR



NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE: PASCHIM MEDINIPUR: PIN-721211



Add - on Course on Functional Bengali

Notice

Dated: 01.03.2023

It is hereby notified that the Department of Bengali is going to offer an Add - on Course on Functional Bengali in the current semester. This Add - on Course (AOC) is a skill development course that is open to all students (B.A./B.Sc. Hons. & General) of the college. Interested students are asked to read the Brochure and the guidelines to find out about the scope, outcomes and outline of the course and to complete the registration procedure at the earliest. The seat capacity of the course is 30 and registration may be done on a first-come, first-served basis.

All students are asked to submit their names to their respective HODs within 06.03.2023 all students are asked to contact Dr. Dipak Shom regarding registration in the course within 11.03.2023.

Pragne Paramita Mondal
02.03.2023

Signature of the IQAC
Co-ordinator

CO-ORDINATOR,
IQAC
NARAJOLE RAJ COLLEGE
NARAJOLE, PASCHIM MEDINIPUR

Dipak Shom
02/03/2023

Signature of the
Course Co-ordinator

Dhanya
02/03/2023

Signature of the
Vice Principal

Vice-Principal
Narajole Raj College
P.O. - Narajole
Dist. - Paschim Medinipur, Pin-721211

15/03/23





NARAJOLE RAJ COLLEGE
 (NAAC Accredited B Grade Govt. - Aided College)
 NARAJOLE: PASCHIM MEDINIPUR: PIN-721211



Board of Studies on Add on Course

Notice

Dated: 09.02.2023

Notice is hereby given that a meeting of Board of Studies of Add on Course on Functional Bengali conducted by Dept. of Bengali, Narajole Raj College will be held on 17.02.2023 (Friday) at 9-00 PM through video conferencing to discuss the following agenda. Please make it convenient to attend the meeting.

Agenda:

1. To discuss regarding approval of the syllabus of proposed Add on course on Functional Bengali;
2. To discuss regarding administration of the course;
3. Miscellaneous (if any) with the permission of the Chair.

Ranajit
 Dr. Ranajit Kumar Khalua
 Vice - Principal
 Vice-Principal
 Narajole Raj College
 P.O.- Narajole
 Dist.- Paschim Medinipur, 721211

Nilanjana Bhattacharyya
 Dr. Nilanjana Bhattacharyya
 HoD, Dept. of Bengali

Members:

- | | |
|--|-------------------------------|
| (1) Dr. Sujoy Kumar Maity (External Exepert) | <i>Sujoy Kumar Maity</i> |
| (2) Prof. Pragna Paramita Mondal (IQAC Coordinator, NRC) | <i>Pragna Paramita Mondal</i> |
| (3) Dr. Sadhan Ch. Pandit | <i>Sadhan Chandra Pandit</i> |
| (4) Dr. Dipak Shom | <i>Dipak Shom</i> |
| (5) Prof. Avijit Chakraborty | <i>Avijit Chakraborty</i> |
| (6) Prof. Madhumita Addya | <i>Madhumita Addya</i> |
| (7) Prof. Sanat Pan | <i>Sanat Pan</i> |
| (8) Prof. Dipashri Roy | <i>Dipashri Roy</i> |
| (9) Prof. Goutam Jana | <i>Goutam Jana</i> |



NB: Necessary link of the meeting will be shared in due course via email or WhatsApp number.



Proceedings of the meeting of the Board of Studies on Functional Bengali
held on 17/02/2023 (Friday) through the VC with meeting ID <https://meet.google.com/xqn-vtcf-uao>



Meeting 01 of the Academic Session 2022-23

In Attendance:

- (1) Dr. Ranajit Kumar Khalua *Ranjit*
- (2) Dr. Sujoy Kumar Maity (External Exepert) *Sujoy Kumar Maity*
- (3) Prof. Pragna Paramita Mondal (IQAC Coordinator, NRC) *Pragna Paramita Mondal*
- (4) Dr. Sadhan Ch. Pandit — *Sadhan Chandra Pandit*
- (5) Dr. Dipak Shom *Dipak Shom*
- (6) Prof. Madhumita Addya *Madhumita Addya*
- (7) Prof. Sanat Pan *Sanat Pan*
- (8) Prof. Dipashri Roy *Dipashri Roy*
- (9) Prof. Goutam Jana *Goutam Jana*
- (10) Dr. Nilanjana Bhattacharyya *Nilanjana Bhattacharyya*

Meeting of the Board of Studies of Add on Course (AOC) on Functional Bengali
started with Vice Principal Dr. Ranajit Kumar Khalua in the chair, detailed discussions on
the items of agenda took place and the following resolutions were adopted:

- i) Resolved that the syllabus submitted at the IQAC by the Dept. of Bengali, Narajole Raj College, for the AOC on Functional Bengali is duly approved by the BOS headed by Dr. Sujoy Kumar Maity, Associate Professor, Dept of Bengali, Raja N.L. Khan women's College (Autonomous) and constituted & chaired by the Vice Principal, Dr. Ranajit Kumar Khalua.
- ii) Resolved that the Syllabus Approval letter attested by Dr. Maity and forwarded by Dr. Ranajit Kumar Khalua, Vice Principal, and Pragna Paramita Mondal, IQAC Coordinator, Narajole Raj College, will be placed before the Governing Body of the college in its next meeting.





Proceedings of the meeting of the Board of Studies on Functional Bengali held on 17/02/2023 (Friday) through the VC with meeting ID <https://meet.google.com/xqn-vtcf-uao>



Meeting 01 of the Academic Session 2022-23

- iii) Resolved that Dr. Dipak Shom will act as the Course Coordinator of the AOC on Functional Bengali in the academic session 2022- 2023. He will be supported in this role by the other members of the department.
- iv) Members discussed at length on proposed syllabus of Add on Course (AOC) on Functional Bengali. The syllabus, which was already sent to IQAC for its intimation and needful action was read out by Dr. Dipak Shom, Coordinator of this proposed course. Dr. Shom explained that the syllabus is consisting of five parts i.e. - theory of the course, types of various writing, Comprehension, Bengali Grammar, Translation, and workshop-oriented classes. It was also resolved that all the under graduate students of the college who will be interested in Functional Bengali may join in this course. The course will be offered once in a year. The duration of the course will be of three (3) months and with thirty-three (33) contact hours. The syllabus of the course is aimed at the development and nurturing of the subject oriented technical skill of the students. It was resolved that execution of the Part E of the syllabus will be conducted as practical classes and evaluation procedure of the course will be done through examinations and assignments as well.

An amount of one hundred (Rs 100/) was fixed as Course fee for said AOC for the purpose of holding examinations and printing certificates.

As no other issues left to be discussed meeting ended with reciprocal vote of thanks to and from the chair.


Dr. Ranajit Kumar Khalua
Chairman


Vice-Principal
Narajole Raj College
P.O.- Narajole
Dist.- Paschim Medinipur, 721211


15/02/23
Chairman





NARAJOLE RAJ COLLEGE

(NAAC Accredited B Grade Govt.-Aided College)

Narajole :: Paschim Medinipur :: Pin- 721211



Add-on Course on Functional Bengali

This is to certify that Sri/ Miss / Mrs. Pargel Das

Student of B. A. 4th Semester / 6th Semester - 2023 Semester successfully

participated in the **Add-on-Course on Functional Bengali** from 23rd March 2023 to 27th June 2023 organized as per UGC norms by the Department of Bengali, under the guidance of IQAC, Narajole Raj College (Narajole, Paschim Medinipur, West Bengal) and obtained Grade A+ .

Signature of the
Principal
Principal
Narajole Raj College
Narajole, Pin-721211

Signature of the
Vice-Principal
Vice-Principal
Narajole Raj College
Narajole, Pin-721211

Signature of the
IQAC Co-ordinator
CO-ORDINATOR,
IQAC
NARAJOLE RAJ COLLEGE
NARAJOLE, PASCHIM MEDINIPUR

Signature of the
Course Co-ordinator
Course Co-ordinator
Functional Bengali
Narajole Raj College

Note: The grade should be as follows: A: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent |

15/07/23



Report of the Value Added Course on Spoken Sanskrit

Organized by the Department of Sanskrit
in collaboration with IQAC

Narajole Raj College
2022 - 2023

A meeting of the Board of Studies was held on 20/02/2023 for the Value Added Course on Spoken Sanskrit initiated by the Department of Sanskrit. The meeting was held in the presence of Vice Principal Dr. Ranajit Kumar Khalua and Coordinator of IQAC Prof. Pragna Paramita Mondal. Dr. Gagan Chandra Dey, Associate Professor, Dept. of Sanskrit, Sabang Sajanikanta Mahavidyalaya was present as an external expert in this meeting. Prof. Tumpa Jana and Prof. Uttam Kumar Singha of the Sanskrit department of this college were in charge of conducting the course. 111 students applied for this course.

The objective of the course is -

- Teach students basic Sanskrit is assumed that the students have a basic understanding of the Subject.
- To assist them in developing skills of spoken in Sanskrit.
- The students primary focus will be to learn basic Sanskrit Grammar in a short time.
- Provide a platform for students to learn the Sanskrit and established himself.

Course outcome is -

- Learning how to form sentences in Sanskrit language.
 - Acquiring speaking skills in Sanskrit language.
 - Knowing the Sanskrit names of practical objects.
 - Eliminating the fear of Sanskrit language.
 - Increasing interest in Sanskrit language.



This Value Added Course on Spoken Sanskrit was collaborated by Global Sanskrit Forum. Trainers were Ram Dandapath and Somnath Chakraborty, two members of Global Sanskrit Forum. The opening ceremony of this Course for two hours every day for 15 days was on 17/05/2023. The opening ceremony was auspiciously started with Vedic Mangalacharana. Prof. Uttam Singha recited Vedic Mangalacharana. After that, the opening song was performed by the students of this department. The Vice Principal of this college offered garlands on Goddess Saraswati and lit the lamp. Asis Bhattacharya, Senior Profess of Sanskrit Department gave the welcome address. Finally Prof. Uttam Singha thanked everyone. Then Ram Dandapath started the first day class with the students. Every day in the class different rules and practices of speaking in Sanskrit were shown. Also there were group discussions in Sanskrit on various topics. Each day's class began with Saraswati Vandana and ended with Shanti Mantra recitation. On the last day (31/05/2023), certificates were officially handed over to the students who have participated in this course. The program was conducted by Prof. Tumpa Jana. External expert of board of studies Dr. Gagan Chandra Dey, Trainer Ram Dandapat and Vice Principal sir of this College were present on the occasion.

Thus 111 students successfully completed the 15-day Value Added Course on Spoken Sanskrit. Students

could learn to speak small sentences and construct sentences from this course. Some students briefly introduced themselves in Sanskrit language at the closing ceremony. So we will try to do more such courses in the future.

15/11/24
15/11/24
15/11/24
15/11/24

Some glimpses on the program





NARAJOLE RAJ COLLEGE

(NAAC Accredited B Grade Govt. Aided College)

NARAJOLE: PASCHIM MEDINIPUR: PIN-721211



Affiliated to Vidyasagar University

Value Added Course

on

“Nutrition and Women’s Health”

Organized By

DEPARTMENT OF PHYSIOLOGY

AND

DEPARTMENT OF ZOOLOGY

Course Co-Ordinator:

Dr. Parimal Dua

Assistant Professor & HOD of Physiology

and

Dr. Poulami Adhikary Mukherjee

Assistant Professor & HOD of Zoology

Vice Principal: Dr. Ranajit Kumar Khalua

IQAC Co-Ordinator: Pragna Paramita Mondal

Tentative Time of the Course: May-June, 2023



Course Objectives:

The objective of the course is to introduce the students:

- To impart the students regarding the fundamental principles and specialized knowledge in the field of Nutrition and Dietetics so that they can have a basic understanding of the subject.
- To enhance the students with suitable life skills and outlooks in therapeutic nutrition.
- To familiarize the students with the basic knowledge of food, nutrients, and their relationship to health.
- To create awareness among the students about a balanced diet, various food groups, recommended dietary allowances (RDA), and food hygiene with the maintenance of better health.
- The students are expected to work in groups during the practical classes.
- The students' primary focus will be on Nutrition and Dietetics in a short period of time.

Course Outcomes:

This course will provide a learning of fundamental principles and specialized knowledge in the field of Nutrition and Dietetics. The course curriculum will develop suitable skills and outlooks in therapeutic nutrition and counselling services for the purpose of some disease management and malnutrition. After the completion of the course, the learners will be able to familiarize themselves with the fundamentals of food, nutrients, and their relationship to health. This course will be helpful to create awareness about a balanced diet, various food groups, recommended dietary allowances (RDA), and food hygiene with the maintenance of better health.

Course Contents:

1. Basic concept on Food, Nutrients
2. Function of nutrients
3. Food as source of nutrients
4. Basic five food groups
5. Minimum Nutritional Requirements and RDA
6. Energy in Human Nutrition
7. B.M.R., S.D.A., ACU
8. Energy requirement of adult female engaged in different types of work
9. Interrelationship between nutrition & health
10. Effect of cooking on nutritive value of foods



11. Food sanitation and hygiene
12. Physiology and Nutrition During Pregnancy
13. Nutritional factors affecting breast feeding
14. Deficiency of nutrients and its impact
15. Common problems of pregnancy and their managements
16. Physiology and Nutrition during Lactation
17. Galactogogues, preparation for lactation
18. Physiology and Nutrition during infancy
19. Advantages of breast-feeding
20. Bottle-feeding
21. Food intolerance in infant
22. Nutrition to toddlers / preschool/school going children or adolescent
23. Management of preterm and low birth weight children
24. Formulation of diet chart and Balance diet
25. Diet chart and menu planning for infants, pre-school children
26. Diet chart and menu planning for adolescents
27. Diet chart and menu planning for pregnant mothers
28. Diet chart and menu planning for lactating and nursing mothers
29. Dietary counselling and Assessment of patients' needs
30. Therapeutic diet chart preparation for some disease
31. Food additives
32. Food Safety
33. Practical: Detection of adulterants in foods



Note:

- i) 1-3,10,11, will be covered by Dr. Poulami Adhikary Mukherjee
- ii) 4, 6-9,16,17, will be covered by Prof. Suman Kalyan Khanra
- iii) 5,12-15,18-23,29-33 will be covered by Dr. parimal Dua
- iv) 24-28 will be covered by Dr. Koushik Das, Guest Lecturer

Schedule:

Total course duration of 33 hours will be scheduled from May 2023. The classes will be both theory and practise based.

Eligibility:

The applicant must be a student at this college, and vacancies are available in all departments and semesters.

Registration/ Application procedure:

All students are encouraged to submit their names to their respective HoDs. From the entire college, no more than 50 candidates will be chosen for the above-mentioned course.

Fee payment: Rs 100/_

Evaluation:

Following the completion of the course, a timely evaluation will be conducted, which may be theoretical or mock test based.

Certification:

Candidates who successfully complete the evaluation process will be certified. The certificate will contain the grades that reflect their aptitude for and performance in the specified course.

About the department of Physiology:

Narajole Raj College, one of the oldest institutions in ancient Medinipur district, founded in September 1966, is a wonderful phenomena in the educational landscape of Medinipur district. The physiology (General) Course was first introduced in 2008. At first, the course was taught at old building i.e., "Raj Bhawan" and now at new from December 2012, onwards. The students and the teachers work very hard for the overall development of the Department of Physiology.

About the department of Zoology:

Narajole Raj College, one of the oldest institutions in ancient Medinipur district, founded in September 1966, is a wonderful phenomena in the educational landscape of Medinipur district. The Department of Zoology is one of the enriched Departments of Narajole Raj Colege. The Zoology (General) Course was first introduced in 2001. Initially, the course was taught in the old building known as "RAJ BHAWAN," and the Zoology (Honours) Course was first introduced in 2013 and now it is currently taught at the new building from December 2012, onwards. The students and the teachers work very hard for the overall development of the Department. Every year, our students exhibit good performance in Vidyasagar University Examination.



About the department of IQAC:

NAAC established the Internal Quality Assurance Cell (IQAC) with the objective of improving and sustaining quality within universities. The IQAC's primary responsibility is to create a mechanism for conscious, consistent, and catalytic improvement in the college's overall performance. The Add-on Course (AOC) is a Narajole Raj College project that will be offered as a Certificate Course by various academic departments to enhance skill development among students. Add-on Courses determine the relevance of a specific topic area for the target population and attempt to incorporate current trends in industry and academics for the benefit of students.

Faculty of the Course



Dr. Parimal Dua, Assistant Professor, Department of Physiology, Narajole Raj College
Teaching experience: 12 years
Mail id: parimaldua@narajolerajcollege.ac.in



Dr. Poulami Adhikary Mukherjee, Assistant Professor & HOD of Zoology, Narajole Raj College
Teaching experience of 4 years
Mail id: poulamiadhikary@gmail.com



Prof. Suman Kalyan Khanra, SACT, Department of Physiology, Narajole Raj College
Teaching experience: 7 years
Mail id: suman.physiology@gmail.com





Dr. Koushik Das, Assistant Professor,
Department of Nutrition, Belda College
Teaching experience: 15 years

For registration related any queries contact

Dr. Parimal Dua

Phone No.- 8900013114

Dr. Poulami Adhikary Mukherjee

Phone No.- 9831020028





Title: Nutrition and Women's Health

Semester: I-VI Paper: Value-Aided Course (VAC)

• **Title of the Unit**

“Nutrition and Women's Health”

▪ **Structure of the Content or Unit Structure**

❖ **Basic Nutrition and Health**

◆ **Introduction to nutrition:**

Basic concept on Food, Nutrients, Nutrition and Health.

Function of nutrients- Carbohydrate, protein, fat, vitamins, minerals, anti-oxidants, water, and dietary fibre.

Food as source of nutrients, functions of food.

Adequate, optimum & good nutrition, malnutrition.

Basic five food groups.

◆ **Minimum Nutritional Requirements and RDA:**

Formulation of RDA and Dietary Guidelines: Reference Woman.

◆ **Energy in Human Nutrition:**

Idea of energy and its unit, energy balance.

Assessment of energy requirements.

Deficiency and Excess.

Determination of energy in food.

B.M.R & influencing factors.

S.D.A.

ACU.

Energy and other nutritional requirement of adult female engaged in different types of work (Sedentary, moderate, heavy).

◆ **Nutrition and fitness:**

Interrelationship between nutrition & health, Malnutrition and Health.

Effect of cooking and heat processing on the nutritive value of foods.

Processed supplementary foods

Food sanitation and hygiene.

❖ **Nutrition in Women, Children and Adolescents**

◆ **Nutrition During Pregnancy:**

Physiology of pregnancy, factors (non-nutritional) affecting pregnancy outcome, importance of adequate weight gain during pregnancy, antenatal care and its schedule, Nutritional requirements during pregnancy and modification of existing diet and supplementation, nutritional factors affecting breast feeding.

Deficiency of nutrients and its impact - energy, iron, folic acid, protein, calcium, iodine.

Common problems of pregnancy and their managements- nausea, vomiting, pica, food



aversions, pregnancy induced hypertension, obesity, diabetes and Adolescent Pregnancy. Eclampsia.

◆ **Nutrition during Lactation:**

Physiology of Lactation - Nutritional requirements during lactation, dietary management, food supplements, galactogogues, preparation for lactation. Care and preparation of nipples during breast feeding.

In brief – Mamogenesis, lactogenesis, Galactokinesis, Galactopoiesis. Ejection Reflex.

◆ **Nutrition during infancy:**

Infant physiology relevant to feeding and care. Breast feeding - colostrums, its composition and importance in feeding. Initiation of breast-feeding and duration of breast-feeding. Advantages of exclusive breast-feeding. Nutritional and other advantages of breast-feeding. Introduction of complementary foods, initiation of management of weaning, breast feeding etc. Bottle-feeding circumstances under which bottle-feeding is to be given. Care and sterilization of bottles. Preparation of formula. Mixed feeding, breast feeding and artificial feeding. Teething and management of problems.

Food intolerance in infant – Lactose/ Protein/ Fat.

◆ **Nutrition to toddlers / preschool/school going children or adolescent.**

◆ **Management of preterm and low birth weight children – their special needs.**

❖ **Meal Management**

Principles of formulation of diet chart. Balance diet.

Diet chart and menu planning for adult women of different physical activity and economic status.

Diet chart and menu planning for infants, pre-school children and adolescents from different socio-economic status.

Diet chart and menu planning for pregnant, lactating and nursing mothers from different socio-economic group.

❖ **Food additives & Food Safety**

◆ **Food additives**

Definition, their need, importance and safety evaluation. Regulation of food additives.

◆ **Food Safety**

Concept and meaning of food quality and food safety, food adulteration, food Page | 4 hazards.

▪ **Practical**

◆ **Food Adulteration**

Detection of adulterants in foods

• **Relevance of the Unit**

Nutrition for Women's Health is important for the following reasons:

1. India is facing a burden of malnutrition, nearly a quarter of women of reproductive age are undernourished, with a body mass index (BMI) of less than 18.5 kg/m. It is estimated nearly one-third of women of reproductive age and nearly half of the pregnant women are anaemic all across the world.
2. Nutrition is important at every phase of women's life. Addressing the needs of girls and women throughout their lives can improve women's nutritional status.



3. Nutrition for women is critical because inadequate nutrition affects not only themselves but also the health of their children.
4. Undernourished girls are more likely to become undernourished mothers, who are more likely to have low birth weight babies. Children of undernourished mothers are more likely to experience cognitive deficits, short stature, decreased infection resistance, as well as a higher lifetime risk of illness and mortality.
5. So, this course is designed to provide additional skills and knowledge beyond the regular curriculum, enhancing their learning experience and improving their career prospects.

▪ **Objectives**

The objective of the course is to introduce the students:

- 1) To impart the students regarding the fundamental principles and specialized knowledge in the field of Nutrition and Dietetics so that they can have a basic understanding of the subject.
- 2) To enhance the students with suitable life skills and outlooks in therapeutic nutrition.
- 3) To familiarize the students with the basic knowledge of food, nutrients, and their relationship to health.
- 4) To create awareness among the students about a balanced diet, various food groups, recommended dietary allowances (RDA), and food hygiene with the maintenance of better health.
- 5) The students are expected to work in groups during the practical classes.
- 6) The students' primary focus will be on Nutrition and Dietetics in a short period of time.

❖ **Introduction:**

Nutrition is a critical part of health and development. Better nutrition is related to improved infant, child and maternal health, stronger immune systems, safer pregnancy and childbirth, lower risk of non-communicable diseases (such as diabetes and cardiovascular disease), and longevity. A healthy diet throughout life promotes healthy pregnancy outcomes, supports normal growth, development, and ageing, helps to maintain a healthy body weight, and reduces the risk of chronic disease leading to overall health and well-being. Healthy children have the potential to learn better. However, in rural areas like Narajole, Paschim Midnapore, there is a lack of nutrition knowledge and lack of awareness of the important role of a balanced diet among the people and students, which in turn may contribute to poor dietary practices. Therefore, a comprehensive knowledge on nutrition has the potential to improve their food choices and eating habits. Keeping this in mind, this Value Added Courses (VAC) on "Nutrition and Women's Health" was introduced to provide the students specialized knowledge on the fundamental principles in the field of Nutrition and Dietetics. The course curriculum will develop suitable skills and outlooks in therapeutic nutrition and counselling services for the purpose of some disease management and malnutrition. After the completion of the course, the learner will be able to familiarize themselves with the fundamentals of food, nutrients, and their relationship to health. This course will be helpful to create awareness about a balanced diet, various food groups, recommended dietary allowances (RDA), and food hygiene with the maintenance of better health.



❖ Basic Nutrition and Health

❖ Basic concept on Food, Nutrients, Nutrition and Health:

- ① **Nutrition**– Nutrition is defined as the science of foods, nutrients and other substances they contain; and of their actions within the body including ingestion, digestion, absorption, metabolism and excretion. While this summarises the physiological dimensions, nutrition has social, psychological and economic dimensions too. Nutrition, nourishment or aliment refers to the nurturing of our body to keep it healthy and functioning as it is supposed to do. Nature has provided a variety of foods for man to consume and be healthy. We consume food for maintenance of health, growth and to develop greater resistance against infections. Nutrition is the scientific study of food and drink (especially in humans). Nutrition as a science was found by Lavoiser (the father of chemistry and also the father of nutrition) towards the end of 18th century. Nutrition is the science of foods, the nutrients and other substances therein; their action, interaction and balance in relationship to health and disease; the processes by which the organism ingests, digests, absorbs, transports and utilizes nutrients and disposes of their end products. Nutrition (physiology) is the organic process of nourishing or being nourished – the process by which an organism assimilates food and uses it for growth and maintenance.
- ② **Food**- Food can be defined as anything solid or liquid which when swallowed, digested and assimilated in the body provides it with essential substances called nutrients and keeps it well. It is the basic necessity of life. Food supplies energy enables growth and repair of tissues and organs. It also protects the body from disease and regulates body functions. Material, usually of plant or animal origin, which contains or consists of essential body nutrients, such as carbohydrates, fats, proteins, vitamins, or minerals, and is ingested and assimilated by an organism to produce energy, stimulate growth, and maintain life.
- ③ **Nutrients**- Nutrients are the constituents in food that must be supplied to the body in suitable amounts. These include carbohydrates, proteins, fats, minerals, vitamins, water and fibre. We need a wide range of nutrients to keep ourselves healthy. Most foods contain more than one nutrient such as milk has proteins, fats, etc. Nutrients can be classified as macronutrients and micronutrients on the basis of the required quantity to be consumed by us every day. The figure on the next page shows us the distinction between macronutrients and micronutrients. Nutrients are the Chemical constituents/substances in food that nourish us by providing energy, materials for building body parts, and factors to regulate needed chemical processes in the body. The body neither can make these nutrients nor can make them fast enough for its needs. Nutrients in food that must be supplied to the body in suitable amounts. They are Carbohydrates, Proteins, Fats, Vitamins, Minerals, and Water.
- ④ **Health**- Health is defined by WHO as "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".
Nursing- Nursing is "the unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will, or knowledge, and to do this in such a way as to strengthen, will or knowledge, and to do this in such a way as to help him gain independence as rapidly as possible". - Virginia Henderson

⊙ Function of nutrients-

“Nutrients are the compounds in food that provide us with energy that facilitates repair and growth and helps to carry out different life processes.”

Not all nutrients provide energy but are necessary for some form or the other. These nutrients are divided into two categories:

- 1) Macronutrients, which are required by the body in large amounts.
- 2) Micronutrients, which are required by the body in small amounts.

⊙ Types of Nutrients

In general, there are two types of nutrients:

- 1) Macronutrients
- 2) Micronutrients

Above nutrients could be obtained from the environment. Macronutrients provide energy to a living being for the function of the metabolic system. They provide massive energy as it is converted used to obtain energy. Macronutrients include fats, proteins, and carbohydrates.

Micronutrient provides essential components for metabolism to be carried out. They also build and repair damaged tissues in order to control the body process. Micronutrients include calcium, iron, vitamins, iron, minerals and vitamin C.

⊙ Important Nutrients in Food

There are several nutrients that cannot be synthesized by the body and have to be taken externally through food. These are vital for the proper functioning of the body. The important nutrients and their functions include are mentioned below:

- **Carbohydrates**- It is one of the main sources of energy for human beings. It comprises of three types of carbohydrates and they include fibre, sugar, and starch. They are usually low calories and thus help in maintaining a healthy diet.
- **Calcium**- It is a mineral that is vital for building strong bones and teeth. In very fewer quantities it is also needed to our nerves, muscles work and heart. Sources of calcium include pudding, milk, yoghurt, tofu, canned fish, and fresh leafy green vegetables. Lack of calcium leads to a disease called Osteoporosis.
- **Cholesterol**- It is essential for the brain, nerves, and development of cells. It plays an important role in the forming of enzymes and hormones. Foods include cheese, milk, chicken, beef, and fish.
- **Fats**- It is one of the most important sources of calories. One gram of fat consists of 9 calories. It is almost twice of calories that we get from carbohydrates and proteins. Fat is usually found in foods that we use in cooking, as spreads on bread and it also found in snacks, pastries.
- **Iron**- It is a constituent of our red blood cells. Its function is to carry oxygen from our lungs to organs, muscles, and cells. Food sources include spinach, soybeans and other leafy vegetables.
- **Protein**- They are made of amino acids. We can obtain protein in foods such as nuts, lentils, beef, rice, chicken, beef etc.



- **Sodium-** Foods like milk and fresh vegetables contain sodium. Lack of sodium might lead to high blood pressure.

⊙ **Functions of Nutrients**

The important functions of nutrients include:

- 1) They are the main source of energy for the body.
- 2) They help in building and repairing body tissues.
- 3) Increases the absorption of fat-soluble vitamins.
- 4) Helps in the synthesis of collagen.
- 5) Provides proper structure to the blood vessels, bones and ligaments.
- 6) They also help in maintaining the homeostasis of the body.

⊙ **The functions of food:**

- 1) They provide us with the nutrients that keep us alive.
- 2) They provide energy to the body, which helps one to grow and remain healthy and active.
- 3) Food provides the body with the requirements that help in building new tissues and cells for growth.
- 4) It provides immunity to the body, which helps it to fight against diseases.
- 5) Food exhibits significant social meanings, that is, it is the symbol of social life.

◆ **Adequate, optimum & good nutrition, malnutrition:**

Nutrition is a very important factor for the well-being and growth of our body. Nutrition has always been connected with the intake of food items but more importantly nutrition is more about the nutritional values these food items provide us.

- 1) **Adequate Nutrition-** An adequate nutrition is the minimum amount of Nutrition or nutrient value that is required by our body to carry on the life cycles and processes.
- 2) **Good Nutrition-** A good nutrition is getting more than the minimum nutrition required that is all the vitamins minerals that are required by our body are being provided to the body for the processes that it has to carry on.
- 3) **Optimum Nutrition-** The term "Optimum Nutrition" can be defined as eating the right amounts of nutrients on a proper schedule to achieve the best performance and the longest possible lifetime in good health, assuming that external negative influences like accidents and infectious diseases can be avoided. An optimum nutrition is the one where each and every nutrient is taken as per the requirement of our body at a right time such that the life cycles of our body work effectively and such type of Nutrition leads to a very good health and greater living capability of the body.
- 4) **Mal-Nutrition-** Malnutrition is an impairment of health resulting from a deficiency, excess or imbalance of nutrients. A state of poor nutrition can result from insufficient or excessive or unbalanced diet or from inability to absorb foods. Malnutrition is a broad term which refers to both under-nutrition (sub nutrition) and over nutrition. Individuals are malnourished, or suffer from under nutrition if their diet does not provide them with adequate calories and protein for maintenance and growth, or they cannot fully utilize the food they eat due to illness.
 - a) **Over Nutrition-** Over nutrition is frequent or habitual over consumption of nutrients by eating too much food to the point that it becomes dangerous to the health. It is an excess of one or more nutrients and usually of calories.



b) Under Nutrition- Under nutrition is the opposite of over nutrition, meaning that it is a nutrient deficiency from not eating enough food. It refers to a deficiency of calories and /or one or more essential nutrients.

◆ **Basic five food groups:**

- 1) Fruit and vegetables
- 2) Carbohydrates or starch
- 3) Protein
- 4) Fat
- 5) Dairy

1) **Fruits and vegetables-** It is recommended to eat at least five portions of fruits and vegetables. They contain vitamins and minerals that are essential to maintain body health and prevent diseases. They are rich in fiber, help in digestion, and maintain gut health. They are low in fat and hence help with hunger pangs without increasing calorie consumption.

○ **Tips to get five portions of fruits and vegetables in a day:**

- 1) Having a banana or an apple with breakfast or adding chopped fruits to cereals or smoothies
- 2) Having a piece of fruit as a mid-morning snack
- 3) Having a bowl of salad or vegetable soup
- 4) Snacking on raw carrots, cucumbers, or celery
- 5) Filling half the plate with fruits and vegetables during meals
- 6) Consuming fruits and vegetables in the form of smoothies and juices, which are fresh and sugar-free
- 7) Adding small amounts of dried fruits such as raisins and apricots to meals

2) **Starch and carbohydrates-** Examples of starchy foods are potatoes, bread, rice, and pasta. Starch is required to fuel the body and is a good source of energy. Whole carbohydrates contain essential fiber, calcium, iron, and other vitamins.

Wholegrain foods usually contain more fiber and nutrients. They take longer time to digest and hence help to remain full for a longer time, thus reducing food consumption. Examples of whole grains are brown rice, whole wheat pasta, brown bread, etc. Whole grains must be consumed with caution by those who have digestion problems.

3) **Proteins-** This food group is an important component of many meals, culture and lifestyles and a wide variety of foods are eaten from this food group.

- **Pulses-** Pulses are foods such as beans, peas, and lentils. They're a good source of fiber, vitamins, and minerals and are low in fat. Pulses are good for bulking up dishes such as soups and gravies. They add flavor and texture and can replace meat.
- **Other vegetable proteins-** Other vegetable-based sources of proteins include tofu, bean curd, and Quorn. They are full of proteins, low in fat, and can be used in place of meat in most recipes.
- **Fish-** Fish is rich in proteins, vitamins, and minerals. Oil-rich fish such as salmon contain vitamin A, vitamin D, and omega-3 fatty acids that benefit the heart, skin, nails, memory, and digestion and are healthy and a good source of vitamins A and D. Oil-rich fish can sometimes contain small amount of pollutants that can accumulate in the body, so it is



advised not to eat more than four portions of oil-rich fish per week. White fish such as haddock and cod are low in fat and contain important vitamins and minerals. Shark, swordfish, and marlin may contain high levels of mercury. Hence, it should not be consumed more than once a week.

- **Eggs**- Eggs are a good source of proteins, vitamins, and minerals. Egg dishes are quick to make and healthy, provided too much oil or salt is not used while cooking.
 - **Meat**: Meat is rich in proteins, vitamins (especially vitamin B12), and minerals. Vitamin B12 is only found in animal meat and milk. Red (beef, lamb, and pork) and processed meat increase the risk of colon cancer. Some types of meat contain high unsaturated fats that increase the cholesterol levels in the body, affecting the heart and brain. Choosing lean cut meats and reducing meat consumption replacing with other sources of protein is recommended.
- 4) **Fats**- Some unsaturated fats such as plant-based and olive oil are recommended because they can help lower cholesterol and reduce the risk of heart diseases.
- Oils and spreads-Some fat in our diet is essential but most of us eat too much. Plant-based oils like vegetable, rapeseed and olive oil are rich in unsaturated fat, so they can help lower cholesterol and reduce the risk of heart disease. Lower fat unsaturated spreads are a good alternative to butter.
 - **Food and drink high in fat, salt and sugars**- Food and drink high in fat, salt or sugar include chocolate, cakes, biscuits, savoury snacks and full-sugar soft drinks. In Scotland, half of the sugar we eat and around 20% of the calories and fat we consume comes from this kind of food. High fat, salt and sugar food and drink tend to have lots of calories and with little nutritional value and we don't need it as part of a healthy balanced diet. If you do want to include this kind of food in your diet, do it less often and in small amounts. Too much sugar increases the risk of tooth decay and obesity.
- 5) **Dairy**- Dairy and dairy alternatives are good sources of proteins and vitamins. They also contain calcium, which is beneficial for bone health. Semi-skimmed, skimmed, and 1% fat milk contains less fat than full-fat milk while still providing sufficient proteins, vitamins, and calcium. Dairy-free milk alternatives such as soya milk and other nut milks can be consumed by those with dietary restrictions. Some dairy products like cheese and yoghurts can be high in salt, sugar or fat (especially saturated fat), so always check the label.

◆ Minimum Nutritional Requirements and RDA:

The RDA, the estimated amount of a nutrient (or calories) per day considered necessary for the maintenance of good health by the Food and Nutrition Board of the National Research Council/ National Academy of Sciences. The RDA is updated periodically to reflect new knowledge. It is popularly called the Recommended Daily Allowance.

RDI- Recommended Dietary Intake. Estimates of daily minimal dietary intake of established nutrients provided by the Food and Nutrition Board of the National Research Council. Optimal levels have not been formally established.



⊙ **Formulation of RDA and Dietary Guidelines: Reference Woman.**

The Recommended Dietary Allowance (RDA) is a nutrient intake level that is sufficient to meet the nutritional requirements of most healthy individuals within a specific demographic group. Here's how the RDA is formulated for a reference woman:

- **Define the Reference Woman:** The reference woman is typically an adult female with specific characteristics that represent the average nutritional needs of women in a particular age group.
- **Determine Nutrient Requirements:** Nutrient requirements are based on scientific evidence regarding the amount of each nutrient necessary to prevent deficiency and promote health in the majority of individuals.
- **Account for Bioavailability:** Bioavailability refers to the extent to which nutrients are absorbed and utilized by the body. RDA values consider the bioavailability of nutrients from typical dietary sources.
- **Consider Life Stage and Physiological Factors:** RDAs may vary depending on life stage (e.g., pregnancy, lactation) and physiological factors (e.g., activity level, health status). Specific RDAs are developed for each demographic group as needed.
- **Calculate the RDA:** The RDA is calculated by estimating the average nutrient requirements of the reference woman based on available scientific data. This involves considering factors such as basal metabolic rate, body size, and other relevant physiological parameters.
- **Establish Safety Margins:** RDAs are set to exceed the nutrient requirements of most individuals in the reference group to account for variability in absorption, metabolism, and individual needs. This ensures that the majority of the population will have their nutritional needs met.
- **Review and Update:** RDAs are regularly reviewed and updated by expert panels to reflect advancements in nutritional science and changes in dietary patterns and lifestyles.
- **Examples of RDAs:** For example, the RDA for iron in adult women (ages 19-50) is 18 mg/day, whereas for calcium, it is 1000 mg/day. These values are based on considerations specific to the nutrient, such as absorption rates and physiological requirements.

By following these steps, the RDA for a reference woman is formulated to provide guidance on nutrient intake that supports optimal health and well-being for the majority of adult women within the specified demographic group.

❖ **Energy in Human Nutrition:**

◆ **Idea of energy and its unit, energy balance**

Energy in the context of nutrition and physiology refers to the capacity of food to provide the body with the necessary fuel for various physiological functions, including metabolism, physical activity, and maintenance of bodily functions. Here are key concepts related to energy and its unit, as well as energy balance:

1. **Definition of Energy and Unit:**

- **Definition:** Energy is the ability to do work. In the context of nutrition, it refers to the energy content of food that is released during metabolism and used by the body for various functions.



• **Unit:** The standard unit of energy used in nutrition is the kilocalorie (kcal) or simply calorie (cal). One kilocalorie is equivalent to the amount of energy needed to raise the temperature of 1 kilogram of water by 1 degree Celsius.

2. Energy Balance:

• **Definition:** Energy balance is the relationship between energy intake (calories consumed through food and beverages) and energy expenditure (calories expended through metabolic processes, physical activity, and other bodily functions).

• Types of Energy Balance:

- 1) **Positive Energy Balance:** When energy intake exceeds energy expenditure. This can lead to weight gain as excess energy is stored as fat.
- 2) **Negative Energy Balance:** When energy expenditure exceeds energy intake. This can lead to weight loss as the body uses stored energy (fat) to meet its needs.
- 3) **Energy Balance Equilibrium:** When energy intake equals energy expenditure. This typically results in weight maintenance.

3. Factors Influencing Energy Balance:

- **Metabolic Rate:** Basal metabolic rate (BMR), which is the energy expended at rest to maintain basic physiological functions, varies among individuals based on age, gender, body size, and composition.
- **Physical Activity:** The energy expended through physical activity varies depending on the type, intensity, and duration of exercise.
- **Thermic Effect of Food:** The energy expended during digestion, absorption, and metabolism of nutrients from food.

4. Role in Health and Weight Management:

- **Weight Gain/Loss:** Energy balance determines whether weight is gained, lost, or maintained over time. Consistently consuming more energy than the body needs leads to weight gain, while consistently consuming less leads to weight loss.
- **Nutrient Intake:** Energy intake also influences the amount of essential nutrients (proteins, fats, carbohydrates, vitamins, minerals) consumed, which are necessary for overall health.

5. Measurement and Calculation:

- **Energy Intake:** Measured in kilocalories (kcal) or calories (cal) from foods and beverages consumed.
- **Energy Expenditure:** Estimated through various methods including BMR calculations, activity trackers, and metabolic testing.

Understanding energy and energy balance is crucial for maintaining a healthy weight and overall well-being. It involves balancing energy intake from food with energy expenditure from metabolic processes and physical activity to support optimal health and function.

◆ Assessment of energy requirements.

Assessing energy requirements involves determining how many calories an individual needs to maintain energy balance based on factors such as age, sex, weight, height, activity level, and overall health. Here's how energy requirements are typically assessed:



1. Basal Metabolic Rate (BMR):

- **Definition:** Basal metabolic rate is the amount of energy expended while at rest in a neutrally temperate environment, in the post-absorptive state (fasting), and in a relaxed, awake state.
- **Calculation:** BMR can be estimated using formulas such as the Harris-Benedict equation or Mifflin-St Jeor equation, which take into account factors like age, sex, weight, and height.
- **Purpose:** BMR represents the energy needed for basic physiological functions such as breathing, circulation, and maintaining body temperature.

2. Physical Activity Level (PAL):

- **Definition:** PAL quantifies the amount of physical activity an individual engages in relative to their BMR.
- **Levels:** PAL ranges from sedentary (little to no physical activity) to very active (high-intensity exercise or heavy physical labor).
- **Adjustment:** Multiply BMR by PAL to estimate total daily energy expenditure (TDEE).

3. Total Daily Energy Expenditure (TDEE):

- **Definition:** TDEE is the total amount of calories an individual needs in a day to maintain their current weight.
- **Calculation:** TDEE is calculated by adding the calories expended through BMR and physical activity.
- **Adjustments:** Adjustments are made for factors like thermic effect of food (energy expended during digestion), non-exercise activity thermogenesis (NEAT), and specific health conditions.

4. Energy Balance Assessment:

- **Positive/Negative Balance:** Compare energy intake (calories consumed) with TDEE to determine if there is a positive (weight gain) or negative (weight loss) energy balance.
- **Maintenance:** Consuming calories equal to TDEE generally maintains weight.

5. Factors Influencing Energy Requirements:

- **Age and Gender:** Energy needs typically decrease with age and vary between males and females.
- **Body Composition:** Muscle mass requires more energy than fat tissue, influencing BMR.
- **Activity Level:** Higher activity levels require more calories.
- **Health Status:** Certain conditions (e.g., pregnancy, illness) can increase energy needs.

6. Assessment Tools:

- **Nutrient Analysis:** Use of food diaries, dietary recall, or food frequency questionnaires to estimate energy intake.
- **Technology:** Wearable devices and apps can track physical activity and estimate energy expenditure.

7. Clinical Considerations:

- **Weight Management:** Assessing energy requirements is crucial for weight loss or gain goals.
- **Health Conditions:** Individualize assessments for medical conditions affecting metabolism or nutrient absorption.

8. Professional Guidance:

- **Registered Dietitians/Nutritionists:** They specialize in assessing energy requirements based on individual needs and goals.

Accurate assessment of energy requirements ensures individuals meet their nutritional needs for optimal health, performance, and weight management. It's important to consider both dietary intake and physical activity levels to achieve and maintain a healthy energy balance.

◆ Deficiency and Excess of energy

Deficiency and excess of energy refer to imbalances in energy intake and expenditure, which can have significant implications for health and well-being:

Deficiency of Energy:

1. Under-nutrition:

- **Caloric Deficit:** Consuming fewer calories than the body requires leads to weight loss and can result in under-nutrition if prolonged.
- **Types:** Specific deficiencies include:
 - **Protein-Energy Malnutrition:** Insufficient intake of both calories and protein, leading to conditions like kwashiorkor or marasmus.
 - **Micronutrient Deficiencies:** Lack of essential vitamins and minerals due to insufficient overall food intake.

2. Consequences:

- **Weight Loss:** Persistent deficiency results in weight loss, muscle wasting, and compromised immune function.
- **Growth Stunting:** Particularly impactful in children and adolescents, leading to impaired physical and cognitive development.
- **Increased Vulnerability:** Higher susceptibility to infections and delayed wound healing due to weakened immune function.

3. Causes:

- **Insufficient Intake:** Limited access to food, poor dietary choices, or eating disorders.
- **Increased Requirements:** Such as during pregnancy, lactation, or recovery from illness.

○ **Excess of Energy:**

1. Over-nutrition:

- **Caloric Surplus:** Consuming more calories than the body needs leads to weight gain and can contribute to obesity.
- **Types:** Common forms include:
 - 1) **Obesity:** Excessive fat accumulation due to chronic imbalance between energy intake and expenditure.
 - 2) **Metabolic Syndrome:** Clustering of conditions like high blood pressure, elevated blood sugar, abnormal cholesterol levels, and central obesity.

2. Consequences:

- **Weight Gain:** Excess energy is stored as fat, leading to overweight or obesity.
- **Cardiovascular Risks:** Increased likelihood of heart disease, stroke, and hypertension.

- **Type 2 Diabetes:** Insulin resistance and elevated blood sugar levels can result from chronic overnutrition.
- **Joint Problems:** Increased stress on joints due to excess body weight.

3. Causes:

- **High-Calorie Foods:** Consumption of energy-dense foods high in fats and sugars.
- **Sedentary Lifestyle:** Lack of physical activity reduces calorie expenditure.
- **Genetic Factors:** Predisposition to weight gain or metabolic disorders.

Balancing Energy Intake and Expenditure:

- **Healthy Weight Management:** Achieving and maintaining a healthy balance between energy intake and expenditure is crucial.
- **Nutritional Adequacy:** Ensuring adequate intake of essential nutrients while meeting energy needs.
- **Physical Activity:** Regular exercise helps regulate energy balance and supports overall health.
- **Individualized Approach:** Tailoring recommendations based on age, sex, activity level, and health status.

Understanding and managing energy balance is fundamental to promoting health and preventing nutrition-related disorders associated with both deficiency and excess of energy. Balancing intake with expenditure supports optimal physical function and overall well-being.

◆ Determination of energy in food

Determining the energy content in food involves several methods and considerations to accurately estimate the calories or energy available from various nutrients. Here's how energy in food is determined:

1. Bomb Calorimetry:

- **Principle:** Bomb calorimetry measures the heat released when a sample of food is completely burned in a controlled environment (oxygen-rich).
- **Process:** The food sample is placed inside a sealed container (bomb) with excess oxygen, ignited, and the resulting heat is measured. This heat release is directly proportional to the energy content (calories) of the food.
- **Application:** Used primarily for determining the gross energy content of food, including carbohydrates, proteins, fats, and fiber.

2. Atwater System Factors:

- **Definition:** This system provides estimates of metabolizable energy (energy available for the body to use) from the major macronutrients based on average values.
- **Factors:**
 - **Carbohydrates:** Provides approximately 4 kcal per gram.
 - **Proteins:** Provides approximately 4 kcal per gram.
 - **Fats:** Provides approximately 9 kcal per gram.
 - **Alcohol:** Provides approximately 7 kcal per gram.
- **Adjustments:** Factors can be adjusted based on the specific type and digestibility of foods (e.g., fiber content affecting carbohydrate digestibility).

3. Food Composition Databases:

- **Sources:** Compiled databases provide energy values for various foods based on analytical data, literature reviews, and average nutrient compositions.
- **Examples:** USDA National Nutrient Database, European Food Information Resource (EuroFIR), and others provide detailed nutrient profiles including energy content per serving.

4. Calculations:

- **Manual Calculation:** Multiply the grams of carbohydrates, proteins, fats, and alcohol in a food item by their respective Atwater factors, then sum these values to obtain the total energy content.

- **Example:** For a food containing 20g of carbohydrate, 10g of protein, and 5g of fat:

$$\begin{aligned}\text{Energy (kcal)} &= (20 \times 4) + (10 \times 4) + (5 \times 9) = 80 + 40 + 45 = 165 \text{ kcal} \\ &= (20 \times 4) + (10 \times 4) + (5 \times 9) \\ &= 80 + 40 + 45 \\ &= 165 \text{ kcal}\end{aligned}$$

5. Factors Affecting Accuracy:

- **Cooking and Processing:** Changes in food structure or loss of nutrients during cooking or processing can affect energy content.
- **Bioavailability:** The extent to which nutrients are absorbed and utilized by the body can influence energy availability.
- **Variability:** Natural variability in nutrient composition within food categories and among different food sources.

6. Regulatory Standards:

- **Labelling:** Food labelling regulations often require energy content to be stated per serving size based on standardized methods or calculations.
- **Accuracy Assurance:** Analytical methods and quality assurance practices ensure consistent and reliable energy values for consumer information.

7. Practical Considerations:

- **Population-Specific:** Energy needs can vary based on age, sex, activity level, and health status, influencing dietary recommendations.
- **Research and Development:** Continuous research improves understanding and accuracy in estimating energy content for novel foods or complex food matrices.

By employing these methods and considerations, scientists and nutrition professionals can accurately determine the energy content of foods, essential for dietary planning, nutritional analysis, and consumer information.

◆ B.M.R & influencing factors

Basal Metabolic Rate (BMR) represents the minimum amount of energy expended by the body at rest to maintain basic physiological functions such as breathing, circulation, and cell production. Understanding BMR is crucial because it accounts for a significant portion of daily energy expenditure and varies among individuals based on several influencing factors:



Influencing Factors of Basal Metabolic Rate (BMR):

1. Body Composition:

- **Lean Body Mass:** Muscle tissue requires more energy (calories) to maintain compared to fat tissue. Therefore, individuals with higher muscle mass tend to have a higher BMR.
- **Body Size:** Larger individuals generally have a higher BMR because they have more metabolically active tissue that requires energy.

2. Age:

- **Metabolic Rate Decline:** BMR tends to decrease with age due to factors such as loss of lean muscle mass (sarcopenia) and hormonal changes.
- **Childhood and Adolescence:** BMR is higher during periods of growth and development.

3. Sex:

- **Difference:** On average, men tend to have a higher BMR than women of the same weight and age due to differences in body composition (men typically have more muscle mass).

4. Hormonal Factors:

- **Thyroid Hormones:** Thyroid hormones (e.g., thyroxine) play a crucial role in regulating metabolic rate. Hypothyroidism (low thyroid function) can lower BMR.
- **Other Hormones:** Hormones such as adrenaline, cortisol, and growth hormone can also influence BMR.

5. Physical Activity Level:

- **Exercise:** Regular physical activity increases BMR, both during the activity itself and afterward (due to increased metabolic demand for repair and recovery).
- **Sedentary Lifestyle:** Inactivity can lower BMR over time as muscle mass decreases and metabolic efficiency declines.

6. Nutritional Status:

- **Caloric Intake:** Chronic calorie restriction or inadequate nutrition can lower BMR as the body adapts to conserve energy.
- **Fasting and Starvation:** Prolonged fasting or starvation can significantly reduce BMR as the body enters a state of conservation to preserve energy.

7. Genetics:

- **Inherited Factors:** Genetic predisposition can influence metabolic rate and body composition, affecting BMR to some extent.

8. Environmental Factors:

- **Temperature:** Extreme temperatures (hot or cold) can affect BMR as the body works to maintain core temperature.
- **Stress:** Chronic stress can influence hormonal balance and metabolic rate, impacting BMR.

o Measurement of BMR:

BMR is typically measured indirectly through equations or predictive formulas, such as the Harris-Benedict equation or the Mifflin-St Jeor equation. These equations estimate BMR based on factors like age, sex, weight, and height. Actual measurement of BMR in a clinical setting can involve direct calorimetry (measuring heat production) or indirect calorimetry (measuring oxygen consumption).



Understanding the factors that influence BMR is essential for personalized nutrition and weight management plans, as well as for assessing overall metabolic health. Individuals with higher BMRs may require more calories to maintain their weight, while those with lower BMRs may need to adjust their caloric intake or increase physical activity to achieve energy balance.

◆ **Specific Dynamic Action (SDA)**

Specific Dynamic Action (SDA), also known as the Thermic Effect of Food (TEF) or Dietary-Induced Thermogenesis (DIT), refers to the increase in metabolic rate that occurs after eating due to the energy required for digestion, absorption, and metabolism of nutrients from food. Here's a detailed overview of Specific Dynamic Action:

1. Definition and Concept:

- **SDA/TEF/DIT:** These terms all refer to the increase in energy expenditure above basal metabolic rate that occurs as a result of consuming food.
- **Mechanism:** When food is consumed, energy is required for enzymatic breakdown of nutrients (proteins, fats, carbohydrates) and subsequent processes like absorption into the bloodstream and storage/utilization within cells.

2. Factors Affecting Specific Dynamic Action:

- **Macronutrient Composition:** Different macronutrients have varying effects on SDA due to differences in their digestion and metabolic pathways:
 - **Proteins:** Require the most energy (around 20-30% of the energy content of the protein consumed) to digest and metabolize.
 - **Carbohydrates:** Require moderate energy (about 5-10% of the energy content).
 - **Fats:** Require the least energy (about 0-3% of the energy content).
- **Meal Size:** Larger meals generally result in a greater SDA due to increased nutrient load.
- **Frequency of Meals:** Multiple smaller meals may result in a higher overall SDA compared to fewer larger meals.

3. Significance:

- **Contribution to Total Energy Expenditure:** SDA contributes to the thermic effect of food, which accounts for approximately 10-15% of total daily energy expenditure in most individuals.
- **Weight Management:** Understanding SDA is important in weight management strategies, as it affects the net energy balance (calories consumed minus calories expended).
- **Nutrient Utilization:** Efficient SDA indicates effective nutrient utilization and metabolic health.

4. Measurement and Assessment:

- **Indirect Calorimetry:** In research settings, SDA can be measured using indirect calorimetry to assess changes in oxygen consumption and carbon dioxide production following food intake.
- **Estimation:** For practical purposes, SDA is often estimated based on average values for different macronutrients (e.g., 20-30% for proteins).

5. Practical Considerations:

- **Weight Loss Strategies:** Including foods higher in protein can increase SDA and potentially aid in weight loss efforts.



- **Meal Planning:** Balancing macronutrients and meal timing can optimize SDA to support metabolic health.
- **Individual Variation:** SDA can vary among individuals based on factors such as age, sex, body composition, and metabolic rate.

Understanding the Specific Dynamic Action of food helps in designing dietary interventions that optimize metabolic efficiency and support overall health and wellness goals. It underscores the importance of considering not just the caloric content of food but also its metabolic impact on energy expenditure.

◆ **Adult Consumption Unit (ACU)**

One consumption Unit is defined as the calorie consumption of an average adult man, weighing 60 Kg, doing sedentary type of work. The other coefficients are worked out on the basis of calorie requirement proportionately. Indian Council of Medical Research (ICMR) developed these coefficients for different age groups, sex, and physical activity.

When the food intake of a community or a group of people is to be measured, the practical problem that arises is that the group is constituted by individuals of various ages and sex groups. Each group has a different set of such groups.

To resolve this issue, it is usual to assess the needs of women and children in terms of those of the average man by applying appropriate coefficients of calorie consumption suggested for practical nutrition work in India.

The energy consumption of an average male doing sedentary work is taken as one unit. The calorie requirement of women, children and males doing moderate and heavy work is expressed as relative to that of a sedentary man. One unit of coefficient corresponds to energy requirements relative to that of a sedentary man and one unit of coefficient corresponds to an energy requirement of 2400 kcal/day. This unit is the "Consumption Unit" (CU).

The concept of Consumption Unit (CU) has been developed by ICMR for assessing the need of energy only. However, National Nutrition Monitoring Bureau (NNMB) has been using the CU for other nutrients and food items intake also (as intake per CU) for nutritional surveys in India.

Table: Coefficient for Computing Calorie Requirement of Different Groups





Group	Consumption units
Adult male, sedentary worker	1.0
Adult male, moderate worker	1.2
Adult male, heavy worker	1.6
Adult female, sedentary worker	0.8
Adult female, moderate worker	0.9
Adult female, heavy worker	1.2
Adolescents: 12–21 years	1.0
Children: 9–12 years	0.8
Children: 7–9 years	0.7
Children: 5–7 years	0.6
Children: 3–5 years	0.5
Children: 1–3 years	0.4

Calculation of the Total Consumption Units of the Family

Allot the appropriate CU (as per the above table) to each family member. Add up the CUs and the total will be the number of CUs in the family.

An example is given here for the calculation of the number of CUs in the family.

- HOF—Male, 31 years old, clerk (sedentary worker): CU = 1
- Wife of the HOF—28 years old, housewife (moderate worker): CU = 0.9
- Elder child—12 year old, male: CU = 1
- Younger child—8 year old, male: CU = 0.7

Total CUs in the family $1 + 0.9 + 1 + 0.7 = 3.6$



❖ Nutrition and fitness:

❖ Interrelationship between nutrition & health

Nutrition and health are intricately connected in numerous ways. The food we consume provides our bodies with essential nutrients that are crucial for growth, development, and overall well-being. Here are some key interrelationships between nutrition and health:

- 1) **Nutrient Intake and Body Functioning:** Essential nutrients such as carbohydrates, proteins, fats, vitamins, and minerals play vital roles in maintaining various bodily functions. For example, carbohydrates provide energy, proteins support tissue repair and growth, fats are essential for cell structure and hormone production, and vitamins and minerals facilitate metabolic processes and immune function.
- 2) **Disease Prevention:** Adequate nutrition is critical in preventing various diseases. For instance, a diet rich in fruits, vegetables, whole grains, and lean proteins is associated with lower risks of chronic conditions such as heart disease, diabetes, and certain cancers. Specific nutrients like



antioxidants (found in fruits and vegetables) help protect cells from damage, thereby reducing disease risk.

- 3) **Immune Function:** Proper nutrition is essential for a robust immune system. Nutrients like vitamins A, C, E, zinc, and selenium play crucial roles in supporting immune function. A deficiency in these nutrients can impair immune responses, making individuals more susceptible to infections.
- 4) **Mental Health:** Emerging research suggests that nutrition can impact mental health outcomes. For example, omega-3 fatty acids found in fish have been linked to reduced symptoms of depression and anxiety. Additionally, deficiencies in certain nutrients (e.g., vitamin B12, folate) have been associated with mental health disorders.
- 5) **Weight Management:** Nutrition significantly influences weight management and body composition. Balancing caloric intake with expenditure is crucial for maintaining a healthy weight. Diets high in processed foods and sugars can contribute to weight gain and obesity, which are risk factors for numerous health problems.
- 6) **Gut Health:** The gut microbiota, influenced by diet, plays a key role in digestion, nutrient absorption, and immune function. A balanced diet rich in fiber (from fruits, vegetables, and whole grains) promotes a healthy gut microbiome, which in turn supports overall health.
- 7) **Bone Health:** Adequate intake of calcium, vitamin D, magnesium, and phosphorus is crucial for bone health and preventing conditions like osteoporosis. These nutrients support bone density and strength throughout life.
- 8) **Energy Levels and Productivity:** Proper nutrition ensures adequate energy levels for daily activities and productivity. Nutrient-dense foods provide sustained energy compared to sugary snacks or processed foods, which can lead to energy crashes.

In summary, nutrition plays a foundational role in maintaining optimal health across various domains. A balanced diet that includes a variety of nutrient-rich foods is essential for supporting bodily functions, preventing disease, and promoting overall well-being throughout life.

◆ **Malnutrition and Health**

Malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. It can have significant implications for health across various dimensions:

- 1) **Physical Health Impacts:** Malnutrition can lead to a range of physical health problems depending on the specific nutrient deficiencies or excesses involved. For instance:
 - a) **Undernutrition:** Insufficient intake of calories and essential nutrients (such as protein, vitamins, and minerals) can lead to stunted growth, wasting, weakened immune system, susceptibility to infections, and impaired cognitive development in children. In adults, chronic undernutrition can lead to muscle wasting, reduced organ function, and increased vulnerability to diseases.
 - b) **Overnutrition:** Excessive intake of calories, often in the form of sugars, fats, and processed foods, can lead to overweight and obesity. These conditions are associated with increased risks of chronic diseases such as heart disease, stroke, type 2 diabetes, and certain cancers.
- 2) **Immune Function:** Both undernutrition and overnutrition can compromise immune function. Undernutrition weakens the immune system, making individuals more susceptible to infections and impairing their ability to recover from illnesses. Overnutrition, particularly associated with

diets high in sugars and fats, can contribute to inflammation and immune dysregulation, increasing the risk of chronic inflammatory conditions.

- 3) **Mental and Cognitive Health:** Malnutrition, especially undernutrition during critical periods of growth and development (such as infancy and childhood), can negatively impact brain development and cognitive function. It may lead to long-term cognitive deficits, affecting learning ability, memory, and overall mental health. Inadequate nutrition can also contribute to mood disorders and affect overall well-being.
- 4) **Reproductive Health:** Malnutrition can affect reproductive health in both men and women. In women, undernutrition can lead to menstrual irregularities, infertility, and complications during pregnancy. Inadequate nutrition during pregnancy increases the risk of low birth weight, preterm birth, and developmental abnormalities in the fetus. In men, poor nutrition can impact sperm quality and fertility.
- 5) **Bone and Muscle Health:** Inadequate intake of calcium, vitamin D, and protein can compromise bone density and muscle strength, leading to conditions like osteoporosis and sarcopenia (loss of muscle mass and strength).
- 6) **Gastrointestinal Health:** Malnutrition can affect gastrointestinal function, including digestion and absorption of nutrients. In conditions of severe malnutrition, such as in cases of prolonged starvation or certain diseases affecting nutrient absorption (e.g., celiac disease), individuals may experience gastrointestinal symptoms and nutritional deficiencies that further exacerbate health problems.
- 7) **Long-Term Health Outcomes:** Malnutrition during critical periods of growth and development, such as childhood, can have lifelong consequences on health and well-being. Chronic malnutrition can increase the risk of non-communicable diseases (NCDs) later in life, including cardiovascular diseases, diabetes, and hypertension.

In conclusion, malnutrition has profound implications for health across multiple dimensions. Addressing malnutrition requires a multifaceted approach, including improving access to nutritious foods, promoting education on healthy eating habits, addressing socioeconomic factors that contribute to food insecurity, and ensuring healthcare systems can provide appropriate nutrition interventions to those in need.

◆ Effect of cooking and heat processing on the nutritive value of foods.

Cooking and heat processing can affect the nutritive value of foods in both positive and negative ways, depending on the type of food and the cooking method used. Here are some effects of cooking and heat processing on the nutritive value of foods:

1) **Nutrient Losses:**

- a) **Vitamins:** Water-soluble vitamins like vitamin C and B vitamins are sensitive to heat and can be lost during cooking, especially when foods are boiled or steamed for prolonged periods. Vitamin C, for example, is easily degraded by heat and exposure to air.
 - b) **Minerals:** Some minerals can leach into cooking water, especially if foods are boiled. This is particularly true for water-soluble minerals like potassium and magnesium. However, other minerals like calcium and iron are relatively stable to heat.
- 2) **Protein Denaturation:** Cooking can cause proteins to denature or change their structure, which can make them easier to digest but may also reduce their biological activity. However, in some



cases, cooking can increase the digestibility of proteins, making them more available for absorption in the body.

- 3) **Carbohydrate Changes:** Cooking can break down complex carbohydrates into simpler sugars, which may increase the glycemic index of foods. This can affect blood sugar levels, especially in foods like potatoes and grains.
- 4) **Fats and Oils:** Heat can cause oxidation of fats and oils, which can lead to the formation of harmful compounds such as trans fats and lipid peroxides. However, cooking can also make certain fats more digestible and available for absorption.
- 5) **Antioxidants:** Cooking can sometimes increase the bioavailability of antioxidants by breaking down cell walls and releasing these compounds. For example, cooking tomatoes increases the availability of lycopene, a powerful antioxidant.
- 6) **Fiber:** Heat processing generally does not significantly affect dietary fiber content, although some soluble fibers can be lost in cooking water if foods are boiled.
- 7) **Phytochemicals:** Cooking can both increase and decrease the availability of phytochemicals (plant compounds) depending on the food and cooking method. For example, cooking carrots can increase the availability of beta-carotene, while overcooking vegetables can lead to significant losses of phytochemicals.
- 8) **Microbial Safety:** Cooking destroys harmful bacteria and parasites that may be present in foods, making them safer to consume.

Summary:

- **Positive Effects:** Cooking can improve the digestibility and bioavailability of certain nutrients, enhance flavors, and increase food safety.
- **Negative Effects:** Cooking can lead to the loss of heat-sensitive nutrients like vitamins C and B, cause the formation of harmful compounds in fats, and reduce the nutrient content in cooking water.

To minimize nutrient losses, it's recommended to use cooking methods that preserve nutrients as much as possible, such as steaming, stir-frying, microwaving, and using minimal amounts of water. Additionally, incorporating raw or lightly cooked foods into the diet can help maintain a balance between nutrient retention and food safety.

◆ Processed supplementary foods

Processed supplementary foods refer to food products that have been specially formulated or processed to provide specific nutrients or address particular nutritional deficiencies in populations. These foods serve as supplements to regular diets, particularly in situations where access to a diverse and balanced diet is limited or inadequate. Here are some key points about processed supplementary foods:

- 1) **Purpose:** Processed supplementary foods are designed to supplement the existing diet with specific nutrients that may be lacking. They are often used in nutrition interventions to address deficiencies such as protein-energy malnutrition, vitamin deficiencies, or mineral deficiencies.
- 2) **Formulation:** These foods are formulated to be nutritionally dense, meaning they provide a concentrated source of essential nutrients per serving. They may include ingredients such as fortified cereals, dried fruits, legumes, nuts, milk powders, and fortified oils.





- 3) **Target Populations:** Processed supplementary foods are typically targeted at vulnerable populations such as children, pregnant and lactating women, the elderly, and individuals affected by emergencies or food insecurity. They aim to improve nutritional status and prevent malnutrition-related health problems.
- 4) **Types of Processed Supplementary Foods:**
 - a) **Ready-to-Use Therapeutic Foods (RUTF):** These are highly fortified, energy-dense foods used to treat severe acute malnutrition. They are often in paste or spread form, requiring no cooking or mixing with water before consumption.
 - b) **Fortified Blended Foods (FBF):** These are blends of cereals, legumes, and other ingredients fortified with essential micronutrients. They are designed to provide a balanced source of energy and nutrients and can be used to supplement regular diets.
 - c) **Micronutrient Powders (MNP):** These are powders containing essential vitamins and minerals that can be added to foods at the household level, such as porridges or soups, to fortify the diet with micronutrients.
- 5) **Nutritional Composition:** Processed supplementary foods are carefully formulated to meet specific nutritional guidelines and recommendations. They often contain added vitamins (like vitamin A, D, E, K, B vitamins), minerals (such as iron, zinc, calcium), and sometimes macronutrients (protein, carbohydrates, fats) in balanced proportions.
- 6) **Distribution and Use:** These foods are typically distributed through humanitarian aid programs, health centers, and nutrition interventions. They are used under supervision and guidance to ensure they are consumed correctly and safely, especially in cases where improper use could lead to health risks or inefficacy.
- 7) **Impact:** Processed supplementary foods have been shown to be effective in improving nutritional outcomes in vulnerable populations, particularly in reducing the prevalence of malnutrition, supporting growth and development in children, and improving maternal health outcomes during pregnancy and lactation.

In summary, processed supplementary foods play a critical role in public health nutrition strategies, providing targeted nutrition to populations at risk of malnutrition or nutrient deficiencies. They are part of broader efforts to improve food security and nutritional well-being in communities where access to a diverse and nutritious diet is limited.

◆ Food sanitation and hygiene.

Food sanitation and hygiene are essential practices that ensure the safety and quality of food throughout its journey from production to consumption. These practices are crucial for preventing foodborne illnesses and promoting public health. Here are the key aspects of food sanitation and hygiene:

- 1) **Personal Hygiene:** Proper personal hygiene among food handlers is critical to prevent contamination of food. This includes:
 - **Handwashing:** Thorough handwashing with soap and water before handling food, after using the restroom, handling waste, or touching potentially contaminated surfaces.
 - **Personal Protective Equipment (PPE):** Wearing appropriate PPE such as gloves, hair nets, and aprons to prevent hair and skin from coming into contact with food.





- **Illness Reporting:** Food handlers should report illnesses such as gastrointestinal symptoms to prevent the spread of pathogens to consumers.
- 2) **Food Handling Practices:** Safe handling practices reduce the risk of contamination during food preparation, cooking, and serving:
 - **Separation of Raw and Cooked Foods:** Preventing cross-contamination by keeping raw meats separate from ready-to-eat foods and using separate utensils and cutting boards.
 - **Cooking Temperatures:** Ensuring foods are cooked to proper temperatures to kill harmful bacteria. Use of food thermometers to verify cooking temperatures.
 - **Proper Storage:** Storing foods at appropriate temperatures (refrigeration or freezing) to slow down bacterial growth and prevent spoilage.
- 3) **Cleaning and Sanitizing:** Regular cleaning and sanitizing of food preparation surfaces, utensils, and equipment are essential:
 - **Cleaning:** Removing food residue and dirt from surfaces using soap and water.
 - **Sanitizing:** Applying a sanitizer (e.g., bleach solution, quaternary ammonium compounds) to kill remaining bacteria and viruses after cleaning.
 - **Frequency:** Surfaces should be cleaned and sanitized regularly, especially after handling raw meats, preparing different types of foods, and at the end of each day.
- 4) **Food Storage and Transportation:** Proper storage and transportation practices help maintain food quality and safety:
 - **Temperature Control:** Storing perishable foods at proper temperatures to prevent bacterial growth (e.g., refrigeration at 4°C or below).
 - **Hygienic Packaging:** Using clean, food-grade containers and packaging materials to protect food during transportation and storage.
- 5) **Pest Control:** Implementing measures to prevent pests (insects, rodents) from contaminating food storage areas and preparation spaces:
 - **Sealing Cracks and Gaps:** Ensuring buildings and storage areas are properly sealed to prevent entry of pests.
 - **Regular Inspections:** Conducting regular inspections for signs of pests and taking appropriate actions (e.g., traps, insecticides) if pests are detected.
- 6) **Training and Education:** Providing training to food handlers and workers on food safety practices, hygiene, and the importance of following regulations and standards.
- 7) **Regulatory Compliance:** Adhering to local and international food safety regulations and standards to ensure the production, handling, and distribution of food are safe for consumers.

By implementing these food sanitation and hygiene practices rigorously, foodborne illnesses can be significantly reduced, and consumers can be assured of the safety and quality of the food they consume.

❖ Nutrition in Women, Children and Adolescents

❖ Nutrition During Pregnancy:

❖ Physiology of pregnancy

The physiology of pregnancy involves a complex series of changes in a woman's body that support the growth and development of the fetus. These changes are orchestrated by hormonal fluctuations



and adaptations in various organ systems. Here's an overview of the key physiological changes that occur during pregnancy:

1) Hormonal Changes:

- **Human Chorionic Gonadotropin (hCG):** Produced by the placenta, hCG stimulates the production of estrogen and progesterone, which are crucial for maintaining the pregnancy.
- **Estrogen and Progesterone:** These hormones help maintain the uterine lining, support fetal development, and prepare the breasts for lactation.
- **Relaxin:** Produced by the placenta and ovaries, relaxin relaxes the pelvic ligaments to prepare for childbirth.

2) Reproductive System:

- **Uterus:** Undergoes significant growth and expansion to accommodate the growing fetus. This growth is supported by increased blood flow to the uterus.
- **Cervix:** Becomes softer (due to increased collagen synthesis) and mucus-filled to form the mucus plug, which protects the uterus from infections.
- **Vagina:** Experiences increased blood flow and secretion of vaginal fluids.

3) Cardiovascular System:

- **Blood Volume:** Increases by about 30-50% to meet the needs of the developing fetus and placenta.
- **Heart Rate:** Increases to accommodate the increased blood volume and cardiac output.
- **Blood Pressure:** May decrease slightly in early pregnancy and then gradually return to pre-pregnancy levels.
- **Blood Clotting:** Increases to prevent excessive bleeding during childbirth.

4) Respiratory System:

- **Breathing:** Becomes more efficient to meet increased oxygen demands of the mother and fetus.
- **Diaphragm:** Rises as the uterus expands, which may cause shortness of breath in later pregnancy.

5) Gastrointestinal System:

- **Appetite:** May increase due to hormonal changes, although space in the abdomen is restricted as the uterus expands.
- **Digestion:** Slows down due to hormonal influences and mechanical factors (compression of the stomach and intestines by the growing uterus).
- **Constipation:** Common due to slower digestion and increased water absorption in the intestines.

6) Renal System:

- **Kidneys:** Increase in size and blood flow to handle increased metabolic waste products from the mother and fetus.
- **Urinary Frequency:** Common due to pressure from the growing uterus on the bladder.

7) Endocrine System:

- **Thyroid Gland:** Increases hormone production to support metabolic changes.
- **Pancreas:** Increases insulin production to accommodate changes in glucose metabolism.



8) Immune System:

- **Immune Response:** Moderately suppressed to prevent rejection of the fetus, which is semi-allogenic (carrying paternal antigens).

9) Musculoskeletal System:

- **Joints and Ligaments:** Relax due to hormonal changes (especially relaxin), which prepares the pelvis for childbirth but may increase the risk of joint instability.

10) Metabolic Changes:

- **Energy Requirements:** Increase to support fetal growth and development.
- **Weight Gain:** Typically ranges from 25-35 pounds (11-16 kg) during pregnancy, with variations depending on pre-pregnancy weight and health.

These physiological changes are essential for supporting a healthy pregnancy and ensuring the well-being of both the mother and the developing fetus. Monitoring and managing these changes through prenatal care are crucial to identifying and addressing any potential complications that may arise during pregnancy.

◆ Factors (non-nutritional) affecting pregnancy outcome

Several non-nutritional factors can significantly impact pregnancy outcomes. These factors can influence maternal health, fetal development, and the overall course of pregnancy. Here are some key non-nutritional factors that affect pregnancy outcomes:

1) **Maternal Age:** Both advanced maternal age (over 35 years) and teenage pregnancy (under 20 years) are associated with increased risks. Older mothers may face higher rates of complications such as gestational diabetes, hypertension, and chromosomal abnormalities. Teenage pregnancies are often linked to preterm birth and low birth weight.

2) Maternal Health Conditions:

- **Chronic Diseases:** Pre-existing conditions such as diabetes, hypertension, thyroid disorders, and autoimmune diseases can complicate pregnancy and increase the risk of preterm birth, preeclampsia, and fetal growth restriction.
- **Infections:** Certain infections during pregnancy, such as urinary tract infections, sexually transmitted infections (STIs), and intrauterine infections (e.g., cytomegalovirus, Zika virus), can adversely affect fetal development and lead to miscarriage, stillbirth, or congenital anomalies.

3) Lifestyle Factors:

- **Smoking:** Smoking during pregnancy is linked to increased risks of preterm birth, low birth weight, placental complications, and developmental problems in the baby.
- **Alcohol Consumption:** Heavy alcohol consumption during pregnancy can lead to fetal alcohol spectrum disorders (FASDs), which include physical, behavioral, and intellectual disabilities.
- **Drug Use:** Illicit drug use, including opioids, cocaine, and methamphetamines, can result in serious complications such as placental abruption, preterm birth, and neonatal withdrawal syndrome.
- **Environmental Exposures:** Exposure to pollutants, chemicals, and toxins (e.g., lead, mercury, pesticides) in the workplace or environment can pose risks to fetal development and pregnancy outcomes.



4) Psychosocial Factors:

- **Stress:** Chronic stress during pregnancy has been associated with adverse outcomes such as preterm birth, low birth weight, and developmental delays in children.
- **Mental Health Disorders:** Maternal depression, anxiety disorders, and other mental health conditions can affect pregnancy outcomes and infant development if not managed effectively.

5) **Obesity and Weight Status:** Maternal obesity (body mass index ≥ 30) is associated with increased risks of gestational diabetes, hypertensive disorders, macrosomia (large birth weight), and cesarean delivery. Underweight women (BMI < 18.5) may have higher risks of preterm birth and low birth weight infants.

6) Social Determinants of Health:

- **Socioeconomic Status:** Lower socioeconomic status is associated with higher rates of preterm birth, low birth weight, and infant mortality due to limited access to prenatal care, nutrition, and resources.
- **Access to Healthcare:** Inadequate prenatal care and lack of healthcare access can lead to undiagnosed and untreated conditions that impact pregnancy outcomes.

7) **Previous Pregnancy History:** Previous complications such as preterm birth, miscarriage, stillbirth, or cesarean delivery can influence subsequent pregnancies and their outcomes.

8) **Medical Interventions and Care:** Quality and timing of prenatal care, management of pregnancy complications (e.g., gestational diabetes, hypertension), and the use of medical interventions (e.g., assisted reproductive technologies, cesarean delivery) can impact pregnancy outcomes.

Addressing these non-nutritional factors through comprehensive prenatal care, education, and support services is crucial for optimizing maternal health and improving pregnancy outcomes. Early identification and management of risk factors can help mitigate potential complications and promote a healthy pregnancy for both the mother and baby.

◆ Importance of adequate weight gain during pregnancy

Adequate weight gain during pregnancy is crucial for the health and well-being of both the mother and the developing fetus. Here are several key reasons why adequate weight gain is important during pregnancy:

- 1) **Fetal Growth and Development:** Adequate weight gain provides essential nutrients and energy necessary for the optimal growth and development of the fetus. Nutrients such as protein, vitamins, minerals, and fats support the formation of fetal tissues, organs, and overall development.
- 2) **Prevents Fetal Growth Restriction:** Inadequate weight gain during pregnancy can lead to fetal growth restriction (small for gestational age), which is associated with increased risks of preterm birth, low birth weight, and neonatal complications.
- 3) **Reduces the Risk of Preterm Birth:** Adequate maternal nutrition and weight gain help reduce the risk of preterm birth, which is a leading cause of neonatal mortality and long-term health problems.
- 4) **Supports Placental Development:** The placenta, which provides oxygen, nutrients, and removes waste products for the fetus, requires adequate maternal nutrition and blood flow. Proper weight gain supports healthy placental development and function.

- 5) **Minimizes Maternal Health Risks:** Adequate weight gain during pregnancy reduces the risk of maternal complications such as anemia, preeclampsia (high blood pressure), gestational diabetes, and postpartum hemorrhage.
- 6) **Prepares for Lactation:** Maternal fat stores accumulated during pregnancy provide a reserve of energy needed for breastfeeding and support milk production after childbirth.
- 7) **Promotes Maternal Health and Recovery:** Adequate nutrition and weight gain support maternal health during pregnancy and contribute to faster recovery after childbirth.
- 8) **Ensures Long-Term Health of the Child:** Adequate maternal nutrition during pregnancy has long-term implications for the health and development of the child, including reduced risks of chronic diseases later in life.

o **Guidelines for weight gain during pregnancy:**

The Institute of Medicine (IOM) provides guidelines for recommended weight gain during pregnancy based on pre-pregnancy body mass index (BMI):

- **Underweight (BMI < 18.5):** 28-40 pounds (12.5-18 kg)
- **Normal weight (BMI 18.5-24.9):** 25-35 pounds (11.5-16 kg)
- **Overweight (BMI 25-29.9):** 15-25 pounds (7-11.5 kg)
- **Obese (BMI ≥ 30):** 11-20 pounds (5-9 kg)

These guidelines may vary based on individual circumstances and should be discussed with a healthcare provider to ensure appropriate weight gain and optimal pregnancy outcomes. Monitoring weight gain during prenatal visits helps ensure that both the mother and baby are receiving the necessary nutrition for a healthy pregnancy.

◆ **Antenatal care and its schedule**

Antenatal care (ANC) is the medical care and support provided to pregnant women to monitor and manage their health throughout pregnancy. It is essential for ensuring the well-being of both the mother and the developing fetus. The schedule and components of ANC may vary slightly depending on national guidelines, healthcare provider practices, and individual pregnancy characteristics. Here's an overview of typical antenatal care and its schedule:

o **Schedule of Antenatal Care Visits:**

1) **First Visit (Initial Assessment):**

- Ideally occurs within the first 12 weeks of pregnancy (first trimester).
- Comprehensive medical history taking, including previous pregnancies, medical conditions, medications, allergies, and family history.
- Physical examination, including measurement of weight, height, blood pressure, and assessment of general health.
- Blood and urine tests to screen for conditions such as blood type, Rh factor, anemia, infections (e.g., HIV, syphilis, hepatitis B), and baseline levels of certain vitamins and minerals.
- Ultrasound scans to confirm pregnancy, determine gestational age, and assess fetal viability.

2) **Subsequent Visits (Routine ANC):**

- Generally scheduled every 4 weeks until around 28 weeks of pregnancy (second trimester).
- Every 2-3 weeks from 28-36 weeks of pregnancy (late second trimester and early third trimester).
- Weekly from 36 weeks until delivery (late third trimester).



3) Components of Routine Antenatal Care Visits:

- Assessment of maternal weight, blood pressure, and general well-being.
- Monitoring fetal growth and development through fundal height measurement (starting around 20 weeks) and possibly ultrasound scans.
- Screening tests and assessments as indicated based on individual risk factors, including urine tests for protein and glucose, blood tests for gestational diabetes (around 24-28 weeks), and additional screenings for genetic conditions if indicated.
- Counseling on nutrition, exercise, prenatal vitamins (including folic acid), and lifestyle factors (e.g., smoking cessation, alcohol avoidance).
- Education on pregnancy, childbirth, breastfeeding, and newborn care.
- Discussion of any concerns or symptoms the mother may have.

4) Specialized Care:

- Some pregnancies may require additional specialized care, such as consultations with obstetric specialists (perinatologists), genetic counselors, or other healthcare providers based on maternal age, medical conditions, or complications identified during pregnancy.

5) Third Trimester Focus:

- Monitoring for signs of preeclampsia (high blood pressure and protein in urine), gestational hypertension, or other complications that may arise later in pregnancy.
- Preparation for childbirth, including birth plan discussions and labor expectations.

6) Post-Delivery Follow-up:

- Postpartum care visits are scheduled to monitor maternal recovery, assess breastfeeding, and address any concerns related to physical and emotional well-being.

❖ Importance of Antenatal Care:

- 1) **Early Detection and Management of Complications:** Regular ANC visits allow healthcare providers to detect and manage pregnancy complications early, reducing risks to both mother and baby.
- 2) **Promotion of Healthy Behaviors:** ANC provides opportunities for education and counseling on nutrition, exercise, and lifestyle modifications that promote a healthy pregnancy.
- 3) **Support for Maternal Mental Health:** ANC visits include discussions on emotional well-being and can provide support for maternal mental health concerns.
- 4) **Preparation for Birth and Parenthood:** ANC prepares expectant parents for childbirth, breastfeeding, and newborn care through education and preparation.

Regular and timely antenatal care is crucial for optimizing pregnancy outcomes, promoting maternal health, and ensuring the healthy development of the fetus. Pregnant individuals are encouraged to follow their healthcare provider's recommendations regarding ANC visits and to communicate any concerns or changes in their health during pregnancy promptly.

◆ Nutritional requirements during pregnancy

Nutritional requirements during pregnancy are crucial for supporting the growth and development of the fetus, ensuring maternal health, and preparing for lactation. The dietary needs of pregnant individuals increase to accommodate the demands of pregnancy and fetal development. Here are the key nutritional requirements during pregnancy and sources of essential nutrients:





❖ **Macronutrients:**

1) **Protein:**

- **Requirement:** Protein needs increase during pregnancy to support the growth of maternal tissues, placenta, and fetal development.
- **Sources:** Lean meats, poultry, fish, eggs, legumes (beans and lentils), dairy products, nuts, seeds, and soy products.

2) **Carbohydrates:**

- **Requirement:** Carbohydrates provide energy to fuel maternal metabolism and support fetal growth.
- **Sources:** Whole grains (such as whole wheat bread, brown rice, oats), fruits, vegetables, legumes, and dairy products.

3) **Fats:**

- **Requirement:** Healthy fats are essential for fetal brain development, energy, and absorption of fat-soluble vitamins.
- **Sources:** Sources include nuts, seeds, avocados, olive oil, fatty fish (like salmon and trout), and small amounts of saturated fats from dairy and meat products.

❖ **Micronutrients:**

1. **Folic Acid (Folate):**

- **Requirement:** Important for preventing neural tube defects (such as spina bifida) in the developing fetus.
- **Sources:** Leafy green vegetables (spinach, kale), legumes, citrus fruits, fortified cereals, and supplements (400-800 micrograms per day as recommended).

2. **Iron:**

- **Requirement:** Iron is necessary for the production of hemoglobin to transport oxygen to the fetus and support maternal blood volume expansion.
- **Sources:** Lean meats, poultry, fish, legumes, fortified cereals, spinach, and iron supplements (if recommended by healthcare provider).

3. **Calcium:**

- **Requirement:** Essential for fetal bone development, nerve function, and maternal bone health.
- **Sources:** Dairy products (milk, yogurt, cheese), fortified plant-based milk alternatives, calcium-fortified juices, tofu, leafy green vegetables (such as kale, broccoli), and calcium supplements if dietary intake is inadequate.

4. **Vitamin D:**

- **Requirement:** Needed for calcium absorption and bone development in the fetus.
- **Sources:** Sunlight exposure (limited dietary sources), fortified dairy products, fortified cereals, fatty fish (such as salmon, mackerel), and vitamin D supplements as recommended (600 IU per day).

5. **Iodine:**

- **Requirement:** Essential for fetal brain development and thyroid function.
- **Sources:** Iodized salt, seafood, dairy products, eggs, and prenatal vitamins containing iodine (150 micrograms per day).



6. Omega-3 Fatty Acids:

- **Requirement:** Important for fetal brain and eye development.
- **Sources:** Fatty fish (such as salmon, trout, sardines), flaxseeds, chia seeds, walnuts, and omega-3 supplements (especially if fish intake is limited).

❖ Additional Considerations:

- **Hydration:** Adequate fluid intake (mainly water) is crucial during pregnancy to support blood volume expansion, amniotic fluid, and kidney function.
- **Caloric Intake:** Pregnant individuals typically need additional calories during the second and third trimesters (approximately 300-500 extra calories per day) to support fetal growth and maternal metabolism.
- **Supplements:** Prenatal vitamins are often recommended to ensure adequate intake of essential nutrients, especially folic acid, iron, calcium, and vitamin D.

❖ Conclusion:

Meeting nutritional requirements during pregnancy is essential for promoting maternal health, supporting fetal growth and development, and preparing for breastfeeding. A balanced diet rich in a variety of foods from all food groups, along with prenatal care and guidance from healthcare providers, ensures optimal nutrition for both the mother and the baby throughout pregnancy.

❖ Modification of existing diet and supplementation for Pregnancy

Modifying the existing diet and considering supplementation during pregnancy is crucial to ensure adequate nutrition for both maternal health and fetal development. Here are some guidelines on how to modify your diet and incorporate supplements during pregnancy:

⊙ Diet Modifications:

1) **Balanced Diet Approach:**

- a. Focus on consuming a variety of nutrient-dense foods from all food groups:
 - i. **Proteins:** Include lean meats, poultry, fish, eggs, legumes (beans and lentils), nuts, seeds, and soy products.
 - ii. **Carbohydrates:** Choose whole grains (whole wheat bread, brown rice, oats), fruits, vegetables, and legumes.
 - iii. **Fats:** Opt for healthy fats from sources like nuts, seeds, avocados, olive oil, and fatty fish (like salmon and trout).

2) **Increase Intake of Nutrient-Rich Foods:**

- a. **Fruits and Vegetables:** Aim for a variety of colorful fruits and vegetables to ensure a wide range of vitamins and minerals.
- b. **Dairy or Dairy Alternatives:** Ensure adequate intake of calcium through dairy products (milk, yogurt, cheese) or fortified plant-based alternatives.
- c. **Iron-Rich Foods:** Include iron-rich foods such as lean meats, poultry, fish, beans, lentils, spinach, and fortified cereals to support increased blood volume and fetal development.

3) **Hydration:**

Drink plenty of water throughout the day to maintain adequate hydration, support blood volume expansion, and amniotic fluid production. **Fiber-Rich Foods:**

Include fiber-rich foods like whole grains, fruits, vegetables, and legumes to help prevent constipation, which is common during pregnancy.



4) **Small, Frequent Meals:**

Eating smaller meals and snacks throughout the day can help manage nausea, heartburn, and maintain steady energy levels.

5) **Limit Certain Foods:**

Avoid or limit foods high in added sugars, unhealthy fats, and processed foods. Also, avoid raw or undercooked meats, seafood, and unpasteurized dairy products to reduce the risk of foodborne illnesses.

⊙ **Supplementation:**

1. **Prenatal Vitamins:**

- **Folic Acid:** Important for preventing neural tube defects. Most prenatal vitamins contain 400-800 micrograms of folic acid.
- **Iron:** Supplement iron if your healthcare provider determines that your dietary intake is insufficient to meet increased needs during pregnancy.
- **Calcium:** Consider a calcium supplement if dietary intake is inadequate, especially for women who do not consume dairy products.
- **Vitamin D:** Supplementation may be recommended if sunlight exposure is limited or dietary intake is inadequate.
- **Omega-3 Fatty Acids:** Consider a supplement if you do not consume adequate amounts of fatty fish.

2. **Consult Your Healthcare Provider:**

Talk to your healthcare provider before starting any supplements to ensure they are appropriate for your individual needs and pregnancy stage.

⊙ **Special Considerations:**

- **Morning Sickness:** If experiencing severe nausea or vomiting, work with your healthcare provider to find dietary strategies or supplements to manage symptoms and ensure adequate nutrition.
- **Food Aversions:** Adjust your diet to accommodate food aversions while still meeting nutritional needs.
- **Medical Conditions:** If you have any pre-existing medical conditions (e.g., diabetes, hypertension), work with your healthcare provider and possibly a registered dietitian to modify your diet appropriately.

⊙ **Conclusion:**

Modifying your diet and considering supplementation during pregnancy is essential to ensure you and your baby receive adequate nutrition. A balanced diet rich in nutrient-dense foods, along with appropriate supplements as recommended by your healthcare provider, supports maternal health, fetal growth, and prepares for breastfeeding post-delivery. Regular prenatal visits and consultations with healthcare professionals will help monitor your nutritional status and make necessary adjustments throughout your pregnancy journey.

◆ **Nutritional factors affecting breast feeding**

Nutritional factors play a crucial role in breastfeeding, influencing both the quality of breast milk and the health of both the lactating mother and the infant. Here are the key nutritional factors that affect breastfeeding:

⊙ Maternal Nutrition:

1) Caloric Intake:

- **Requirement:** Lactating women need additional calories to support milk production. The exact amount varies but generally requires about 500 extra calories per day compared to non-pregnant, non-lactating women.
- **Sources:** Focus on nutrient-dense foods such as fruits, vegetables, whole grains, lean proteins (meat, poultry, fish, legumes), dairy or dairy alternatives, and healthy fats.

2) Hydration:

- **Importance:** Adequate fluid intake is essential for milk production. Lactating women should drink to thirst, aiming for about 8-10 cups of fluids per day.
- **Sources:** Water is the best choice, but milk, herbal teas, and fruit juices can contribute to hydration.

3) Protein:

- **Requirement:** Essential for milk production and repair of maternal tissues.
- **Sources:** Include lean meats, poultry, fish, eggs, dairy products, legumes, nuts, and seeds.

4) Omega-3 Fatty Acids:

- **Importance:** Omega-3s, particularly DHA (docosahexaenoic acid), are crucial for infant brain and eye development.
- **Sources:** Fatty fish (like salmon and sardines), flaxseeds, chia seeds, walnuts, and DHA supplements if dietary intake is inadequate.

5) Vitamins and Minerals:

- **Calcium:** Important for maternal bone health; sources include dairy products, fortified plant-based alternatives, and leafy green vegetables.
- **Iron:** Needed to prevent maternal iron deficiency anemia; sources include lean meats, poultry, fish, beans, lentils, and iron-fortified foods.
- **Vitamin D:** Supports calcium absorption; sources include sunlight exposure (limited dietary sources) and supplements if recommended.
- **B Vitamins (especially B12):** Important for energy metabolism and nervous system function; sources include animal products, fortified cereals, and supplements if necessary.

⊙ Factors Affecting Milk Composition:

1) Maternal Diet:

- a. **Variety:** A diverse diet helps ensure a broad range of nutrients in breast milk.
- b. **Hydration:** Insufficient fluid intake can reduce milk supply.
- c. **Caffeine and Alcohol:** Moderate intake is generally safe but excessive consumption can affect infant sleep patterns and overall health.

2) Maternal Health and Medications:

- a. **Health Conditions:** Certain conditions (e.g., thyroid disorders, diabetes) and medications can affect milk production or composition.
- b. **Consultation:** Discuss with healthcare providers to manage conditions and medications safely during breastfeeding.

⊙ **Breastfeeding Practices:**

1) **Frequency and Demand:**

- **Supply and Demand:** The more frequently and effectively the baby feeds, the more milk the mother produces.
- **Cluster Feeding:** Normal behavior where babies may feed more frequently during growth spurts.

2) **Latching and Technique:**

- **Proper Latch:** Ensures efficient milk transfer and reduces nipple soreness.
- **Positioning:** Comfortable positions (e.g., cradle, football hold) can help both mother and baby.

⊙ **Conclusion:**

Optimal maternal nutrition is essential for successful breastfeeding. A well-balanced diet rich in nutrients, adequate hydration, and appropriate supplementation when necessary supports both maternal health and the production of high-quality breast milk. Consulting with healthcare providers or a lactation consultant can provide personalized guidance to ensure a positive breastfeeding experience for both mother and baby.

◆ **Deficiency of nutrients and its impact - energy, iron, folic acid, protein, calcium, iodine.**

Deficiency of nutrients during pregnancy can have significant impacts on both maternal health and fetal development. Here's how deficiencies in energy, iron, folic acid, protein, calcium, and iodine can affect pregnancy:

1. **Energy:**

- **Impact:** Inadequate caloric intake can lead to maternal fatigue, weakness, and difficulty meeting the increased energy demands of pregnancy.
- **Consequences:**
 - Decreased energy levels can affect maternal well-being and ability to cope with physical demands.
 - Insufficient energy intake may compromise fetal growth and development.

2. **Iron:**

- **Impact:** Iron deficiency is common during pregnancy due to increased maternal blood volume and fetal iron requirements.
- **Consequences:**
 - **Maternal:** Iron deficiency anemia can lead to fatigue, weakness, pale skin, and increased susceptibility to infections.
 - **Fetal:** Insufficient iron can impair fetal growth and increase the risk of preterm birth and low birth weight.

3. **Folic Acid:**

- **Impact:** Folic acid (folate) is crucial for preventing neural tube defects (such as spina bifida) in the developing fetus.
- **Consequences:**
 - **Maternal:** Deficiency may result in megaloblastic anemia and increased risk of preeclampsia.
 - **Fetal:** Neural tube defects can lead to severe neurological abnormalities in the baby.

4. Protein:

- **Impact:** Proteins are essential for maternal tissue growth, fetal development, and synthesis of enzymes and hormones.
- **Consequences:**
 - **Maternal:** Inadequate protein intake can lead to muscle loss, weakened immune function, and delayed wound healing.
 - **Fetal:** Protein deficiency may impair fetal growth and increase the risk of low birth weight and other developmental issues.

5. Calcium:

- **Impact:** Calcium is critical for maternal bone health and development of fetal bones and teeth.
- **Consequences:**
 - **Maternal:** Calcium deficiency may increase the risk of osteoporosis and bone fractures in the mother.
 - **Fetal:** Insufficient calcium can lead to poor fetal bone mineralization and growth restriction.

6. Iodine:

- **Impact:** Iodine is essential for thyroid hormone production, which regulates metabolism and fetal brain development.
- **Consequences:**
 - **Maternal:** Iodine deficiency can lead to thyroid dysfunction (hypothyroidism or goiter).
 - **Fetal:** Severe iodine deficiency during pregnancy increases the risk of congenital abnormalities, intellectual disabilities, and impaired growth.

Ⓢ Management and Prevention:

- 1) **Prenatal Care:** Regular prenatal visits allow healthcare providers to monitor nutritional status and recommend appropriate supplements if deficiencies are identified.
- 2) **Supplementation:** Prenatal vitamins containing iron, folic acid, calcium, and iodine are often recommended to ensure adequate intake.
- 3) **Dietary Modification:** A well-balanced diet rich in nutrient-dense foods (fruits, vegetables, whole grains, lean proteins, dairy) supports adequate nutrition during pregnancy.
- 4) **Consultation:** Consulting with healthcare providers or a registered dietitian can provide personalized guidance on nutrition and supplementation tailored to individual needs.

Addressing and correcting nutrient deficiencies early in pregnancy is crucial for optimizing maternal health, supporting fetal growth and development, and reducing the risk of complications during and after childbirth.

◆ Common problems of pregnancy and their managements- nausea, vomiting, pica, food aversions, pregnancy induced hypertension, obesity, diabetes and Adolescent Pregnancy.

Pregnancy can bring about various challenges and health issues for women, each requiring specific management approaches to ensure maternal well-being and healthy fetal development. Here's an overview of common problems during pregnancy and their management strategies:

1. Nausea and Vomiting:

- **Problem:** Morning sickness, nausea, and vomiting are common in early pregnancy, often peaking around 9-12 weeks.



• **Management:**

- 1) **Dietary Modifications:** Eat small, frequent meals and snacks throughout the day. Avoid spicy, fatty, and strong-smelling foods.
- 2) **Ginger:** Ginger tea or supplements may help alleviate nausea.
- 3) **Acupressure:** Wristbands or acupuncture may provide relief.
- 4) **Medical Intervention:** Severe cases may require anti-nausea medications prescribed by a healthcare provider.

2. **Pica:**

• **Problem:** Craving and consumption of non-food substances (e.g., dirt, chalk, ice) which can be harmful.

• **Management:**

- 1) **Identification:** Recognize and address underlying nutritional deficiencies that may contribute to pica.
- 2) **Behavioral Therapy:** Counseling and behavioral interventions to reduce cravings.
- 3) **Medical Evaluation:** Assess for potential health risks and treat underlying conditions if present.

3. **Food Aversions:**

• **Problem:** Strong aversions to certain foods due to changes in taste and smell during pregnancy.

• **Management:**

- 1) **Adaptation:** Modify diet to include tolerated foods that still meet nutritional needs.
- 2) **Timing:** Experiment with different times of day for meals to find when aversions are less intense.
- 3) **Substitutions:** Find alternative sources of nutrients if essential foods are aversive.

4. **Pregnancy-Induced Hypertension (PIH) and Preeclampsia:**

• **Problem:** Elevated blood pressure (PIH) and potentially severe condition (preeclampsia) characterized by hypertension, proteinuria, and sometimes organ dysfunction.

• **Management:**

- 1) **Regular Monitoring:** Blood pressure and urine protein monitoring at prenatal visits.
- 2) **Lifestyle Changes:** Rest, reduce salt intake, and increase fluid intake.
- 3) **Medical Intervention:** Depending on severity, medications to lower blood pressure and prevent complications.
- 4) **Delivery:** Delivery may be necessary to resolve severe cases of preeclampsia.

5. **Obesity:**

• **Problem:** Higher BMI can increase risks of gestational diabetes, hypertension, cesarean delivery, and other complications.

• **Management:**

- 1) **Pre-Pregnancy Counseling:** Address weight management and optimize health before conception.
- 2) **Nutritional Guidance:** Balanced diet and appropriate weight gain during pregnancy.



3) **Regular Monitoring:** Manage potential complications closely with healthcare provider oversight.

6. **Gestational Diabetes Mellitus (GDM):**

- **Problem:** Elevated blood sugar levels first recognized during pregnancy, affecting maternal and fetal health.
- **Management:**
 - 1) **Dietary Management:** Controlled carbohydrate intake, balanced meals, and snacks.
 - 2) **Blood Glucose Monitoring:** Regular monitoring to maintain target levels.
 - 3) **Exercise:** Moderate physical activity as recommended by healthcare providers.
 - 4) **Insulin Therapy:** If diet and exercise are insufficient to control blood glucose levels.

7. **Adolescent Pregnancy:**

- **Problem:** Pregnancy in adolescents (typically under 20 years old) presents unique challenges due to physical, emotional, and social factors.
- **Management:**
 - 1) **Prenatal Care:** Early and regular prenatal visits to monitor maternal and fetal health.
 - 2) **Education and Support:** Provide comprehensive education on pregnancy, childbirth, and parenting.
 - 3) **Psychosocial Support:** Address emotional and social challenges, including support from family and community resources.
 - 4) **Health Monitoring:** Assess growth and development, nutritional needs, and potential complications related to adolescent pregnancy.

Each pregnancy is unique, and management strategies should be personalized based on individual health status and needs. Regular communication with healthcare providers ensures timely intervention and support throughout pregnancy, promoting optimal outcomes for both mother and baby.

◆ **Eclampsia.**

Eclampsia is a serious complication of pregnancy characterized by the onset of seizures or convulsions in a woman who has developed preeclampsia. Preeclampsia itself is a condition marked by high blood pressure (hypertension) and proteinuria (protein in the urine) that typically occurs after 20 weeks of gestation in a previously normotensive woman. If untreated or inadequately managed, preeclampsia can progress to eclampsia, which is considered a medical emergency due to the potential risks to both the mother and fetus.

⊙ **Causes and Risk Factors:**

- **Exact Cause:** The exact cause of preeclampsia and eclampsia is not fully understood, but it is believed to involve problems with the placenta and its blood supply.
- **Risk Factors:**
 - First pregnancy.
 - History of preeclampsia in a previous pregnancy.
 - Family history of preeclampsia.
 - Multiple gestation (e.g., twins or triplets).
 - Maternal age (under 20 or over 40).
 - Obesity.





- Chronic hypertension or preexisting medical conditions like diabetes or kidney disease.

⊙ **Symptoms:**

• **Preeclampsia Symptoms:**

- High blood pressure (hypertension).
- Proteinuria (excess protein in urine).
- Swelling (edema), typically in the hands and face.
- Sudden weight gain.
- Headaches.
- Visual disturbances (blurred vision, sensitivity to light).

• **Eclampsia Symptoms:**

- Seizures or convulsions.
- Loss of consciousness.
- Agitation or confusion.
- Severe headache.
- Abdominal pain.

⊙ **Diagnosis:**

• **Diagnosis of preeclampsia and monitoring for progression to eclampsia typically involves:**

- Regular prenatal visits with blood pressure measurements.
- Urine tests to check for proteinuria.
- Blood tests to assess organ function and platelet count.
- Monitoring symptoms such as headaches and visual changes.

⊙ **Treatment:**

• **Management of Preeclampsia:**

- Hospitalization for close monitoring.
- Blood pressure control with medications (antihypertensives).
- Seizure prevention with magnesium sulfate.
- Corticosteroids to help fetal lung maturation if preterm delivery is likely.

• **Management of Eclampsia:**

- Immediate treatment to stop seizures using medications, typically magnesium sulfate.
- Controlling high blood pressure.
- Monitoring and support for maternal and fetal well-being.
- Delivery of the baby, depending on gestational age and severity of symptoms.

⊙ **Complications:**

• **Maternal Complications:**

- Organ damage (e.g., kidney, liver).
- Stroke.
- Bleeding disorders.
- HELLP syndrome (Hemolysis, Elevated Liver enzymes, Low Platelet count).

• **Fetal Complications:**

- Intrauterine growth restriction (IUGR).
- Preterm birth.
- Stillbirth in severe cases.

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15/07/20





⊙ **Prevention:**

- **Early Prenatal Care:** Regular prenatal visits to monitor blood pressure and urine protein levels.
- **Healthy Lifestyle:** Adequate nutrition, moderate exercise, and weight management.
- **Early Detection:** Recognizing and managing risk factors promptly.

Eclampsia requires immediate medical attention and management to ensure the safety of both the mother and the baby. Timely intervention can help prevent complications and improve outcomes. Pregnant individuals should maintain open communication with their healthcare providers and seek medical attention promptly if they experience symptoms of preeclampsia or eclampsia.

❖ **Nutrition during Lactation:**

❖ **Physiology of Lactation –**

The physiology of lactation refers to the biological processes that enable the production and secretion of breast milk from the mammary glands of a lactating woman. Lactation is a complex and highly regulated process involving hormonal, neurological, and mechanical mechanisms. Here's an overview of the key aspects of lactation physiology:

⊙ **Hormonal Control:**

1) **Hormones Involved:**

- a) **Prolactin:** Secreted by the anterior pituitary gland in response to stimulation from the hypothalamus. Prolactin stimulates milk production (lactogenesis) by promoting the synthesis of milk components within the mammary glands.
- b) **Oxytocin:** Released by the posterior pituitary gland in response to suckling or breast stimulation. Oxytocin causes the contraction of the myoepithelial cells surrounding the alveoli (milk-producing cells), leading to the ejection of milk (milk let-down or milk ejection reflex).

2) **Hormonal Phases:**

- a) **Prolactin Release:** Initially, prolactin levels rise during pregnancy, preparing the mammary glands for milk production.
- b) **Oxytocin Release:** Oxytocin release is crucial during breastfeeding sessions to facilitate milk release into the ducts for the baby to feed.

⊙ **Milk Production and Composition:**

1) **Milk Synthesis:**

- a) **Alveoli:** Milk production begins within the alveoli of the mammary glands. These are clusters of milk-producing cells surrounded by myoepithelial cells.
- b) **Milk Components:** Breast milk consists of water, proteins (such as lactalbumin and casein), fats (including long-chain polyunsaturated fatty acids), carbohydrates (mainly lactose), vitamins, minerals, and immune factors (such as antibodies and white blood cells).

2) **Colostrum and Transitional Milk:**

- a) **Colostrum:** Secreted in the first few days postpartum, colostrum is rich in antibodies and provides essential nutrients for the newborn's initial immune protection and growth.
- b) **Transitional Milk:** Gradually transitions to mature milk over the first 1-2 weeks, adjusting in composition to meet the changing nutritional needs of the growing infant.



⊙ **Milk Ejection Reflex (Let-Down Reflex):**

- **Mechanism:** Initiated by the release of oxytocin in response to the baby's suckling or breast stimulation.
- **Process:** Oxytocin causes contraction of the myoepithelial cells around the alveoli, squeezing milk into the ducts and towards the nipple for feeding.
- **Trigger:** The milk ejection reflex can also be triggered by emotional stimuli, such as hearing the baby cry or thinking about the baby.

⊙ **Maintenance and Regulation:**

- 1) **Demand and Supply:** Milk production is a supply-and-demand process. The more frequently and effectively the baby feeds, the more milk is produced to meet the infant's needs.
- 2) **Breast Emptying:** Efficient breast emptying during feeding signals the body to produce more milk for the next feeding.

⊙ **Factors Affecting Lactation:**

- 1) **Nutrition:** Adequate maternal nutrition supports milk production and quality.
- 2) **Hydration:** Sufficient fluid intake is important for maintaining milk supply.
- 3) **Breastfeeding Practices:** Proper latch and positioning facilitate effective milk transfer and emptying.
- 4) **Emotional State:** Stress and anxiety can sometimes interfere with milk let-down due to their impact on oxytocin release.

⊙ **Conclusion:**

Understanding the physiology of lactation helps healthcare providers and lactating mothers navigate breastfeeding challenges effectively. It underscores the importance of support, education, and optimal maternal health to ensure successful breastfeeding and promote infant health and development. Lactation is a dynamic process influenced by hormonal regulation, infant feeding patterns, and maternal well-being, all of which contribute to the nurturing and nourishment of the new-born.

◆ **Nutritional requirements during lactation:**

Nutritional requirements during lactation are crucial to support the production of breast milk and to maintain maternal health. Lactating mothers have increased nutrient needs compared to non-pregnant, non-lactating women, as they are providing essential nutrients for their infants through breast milk. Here are the key nutritional requirements during lactation and sources of essential nutrients:

⊙ **Macronutrients:**

1) **Protein:**

- a) **Requirement:** Protein needs increase to support milk production and tissue repair.
- b) **Sources:** Lean meats, poultry, fish, eggs, dairy products, legumes (beans and lentils), nuts, seeds, and soy products.

2) **Carbohydrates:**

- a) **Requirement:** Carbohydrates provide energy to meet the increased demands of lactation.
- b) **Sources:** Whole grains (such as whole wheat bread, brown rice, oats), fruits, vegetables, legumes, and dairy products.





3) Fats:

- a) **Requirement:** Healthy fats are important for energy, hormone production, and brain development in infants.
- b) **Sources:** Fatty fish (like salmon and trout), nuts, seeds, avocado, olive oil, and small amounts of saturated fats from dairy and meat products.

⊙ Micronutrients:

1) Calcium:

- a) **Requirement:** Essential for maintaining maternal bone health and for infant bone development.
- b) **Sources:** Dairy products (milk, yogurt, cheese), fortified plant-based milk alternatives, calcium-fortified juices, tofu, and leafy green vegetables (such as kale, broccoli).

2) Iron:

- a) **Requirement:** Iron needs remain elevated during lactation to replenish stores depleted during pregnancy and to support red blood cell production.
- b) **Sources:** Lean meats, poultry, fish, beans, lentils, fortified cereals, and leafy green vegetables.

3) Iodine:

- a) **Requirement:** Crucial for thyroid hormone production, which influences metabolism and growth in both mother and infant.
- b) **Sources:** Iodized salt, seafood, dairy products, eggs, and prenatal vitamins containing iodine.

4) Omega-3 Fatty Acids:

- a) **Requirement:** Important for infant brain and eye development.
- b) **Sources:** Fatty fish (like salmon, mackerel), flaxseeds, chia seeds, walnuts, and omega-3 supplements if dietary intake is inadequate.

5) Vitamin D:

- a) **Requirement:** Supports calcium absorption and bone health.
- b) **Sources:** Sunlight exposure (limited dietary sources), fortified dairy products, fortified cereals, and vitamin D supplements as recommended.

6) Vitamin B12:

- a) **Requirement:** Important for nervous system function and red blood cell production.
- b) **Sources:** Animal products (meat, poultry, fish, dairy), fortified cereals, and nutritional yeast for vegetarians and vegans.

⊙ Fluids:

Hydration: Adequate fluid intake, mainly water, is essential for maintaining milk supply and overall hydration. Lactating women should drink to thirst and aim for about 8-10 cups of fluids per day.

⊙ Caloric Intake:

Additional Calories: Lactating women typically need about 450-500 extra calories per day compared to their pre-pregnancy intake to support milk production.



⊙ **Dietary Considerations:**

- **Balanced Diet:** A varied and balanced diet including a wide range of nutrient-dense foods from all food groups ensures adequate nutrition for both mother and baby.
- **Supplements:** Prenatal vitamins or specific postnatal supplements may be recommended, especially if dietary intake is inadequate or specific nutrients are lacking.

⊙ **Conclusion:**

Meeting nutritional requirements during lactation is essential for maternal health, optimal milk production, and infant growth and development. A well-rounded diet rich in protein, carbohydrates, fats, vitamins, and minerals, along with sufficient hydration, supports the unique nutritional needs of lactating mothers and contributes to the health and well-being of both mother and baby. Consulting with healthcare providers or a registered dietitian can provide personalized guidance to ensure adequate nutrition during this important period.

◆ **Dietary management, food supplements, galactogogues, preparation for lactation:**

Preparing for lactation involves dietary management, consideration of food supplements, and understanding galactogogues—substances that promote milk production. Here's a comprehensive overview of these aspects:

◆ **Dietary Management for Lactation:**

1) **Caloric Intake:**

Lactating women typically need additional calories to support milk production and their own energy needs. Aim for about 450-500 extra calories per day compared to pre-pregnancy intake.

2) **Nutrient-Dense Foods:**

Include a variety of foods to ensure adequate intake of essential nutrients:

- a) **Proteins:** Lean meats, poultry, fish, eggs, dairy products, legumes, nuts, and seeds.
- b) **Carbohydrates:** Whole grains (such as whole wheat bread, brown rice, oats), fruits, vegetables, and legumes.
- c) **Fats:** Healthy fats from sources like fatty fish, nuts, seeds, avocado, and olive oil.

3) **Hydration:**

Drink plenty of fluids, primarily water, throughout the day to maintain hydration and support milk production.

4) **Specific Nutrients:**

- a) **Calcium:** Important for bone health; sources include dairy products, fortified plant-based alternatives, and leafy green vegetables.
- b) **Iron:** Needed to prevent iron deficiency anemia; sources include lean meats, poultry, fish, beans, lentils, and iron-fortified foods.
- c) **Omega-3 Fatty Acids:** Found in fatty fish (like salmon), flaxseeds, chia seeds, and walnuts, important for infant brain development.
- d) **Vitamin D:** Supports calcium absorption; sources include sunlight exposure (limited dietary sources) and supplements if necessary.

5) **Avoid Certain Foods:**

- a) Limit caffeine intake, as excessive caffeine can affect milk supply.
- b) Avoid alcohol or consume it sparingly, as it passes into breast milk and can affect the baby.



⊙ **Food Supplements:**

- **Prenatal Vitamins:** Many lactating women continue taking prenatal vitamins to ensure adequate intake of vitamins and minerals.
- **Omega-3 Supplements:** Especially for women with low dietary intake of fatty fish or plant-based sources of omega-3s.

◆ **Galactogogues:**

⊙ **Definition:** Galactogogues are substances that can help promote or increase milk production. They can be herbal, pharmaceutical, or dietary in nature.

⊙ **Examples:**

- **Herbal Galactogogues:** Fenugreek, blessed thistle, milk thistle, alfalfa, and fennel seeds.
- **Pharmaceutical Galactogogues:** Domperidone (prescription medication used off-label to increase milk supply).
- **Dietary Galactogogues:** Oatmeal, brewer's yeast, and barley are often recommended for their potential lactogenic properties.

⊙ **Usage:**

- Always consult with a healthcare provider before using galactogogues, especially pharmaceutical options, to ensure safety and effectiveness.
- Start with dietary galactogogues like oatmeal or brewer's yeast, which are generally safe and commonly used.

❖ **Preparation for Lactation:**

- **Antenatal Education:** Attend breastfeeding classes or consult with a lactation consultant to learn about breastfeeding techniques, proper latch, and breastfeeding positions.
- **Breast Pump:** Consider purchasing or renting a breast pump to express milk, especially if planning to return to work or if separated from the baby for extended periods.
- **Create a Supportive Environment:** Inform family members and caregivers about the benefits of breastfeeding and how they can support the breastfeeding mother.

⊙ **Conclusion:**

Preparing for lactation involves a holistic approach that includes dietary management, consideration of supplements and galactogogues, and adequate preparation both physically and mentally. A balanced diet rich in nutrients, sufficient hydration, and knowledge about lactation techniques and support resources can contribute to successful breastfeeding and the health of both mother and baby. Consulting with healthcare providers or lactation specialists can provide personalized guidance tailored to individual needs and circumstances.

◆ **Care and preparation of nipples during breast feeding:**

Taking care of nipples during breastfeeding is essential to prevent discomfort, pain, and potential complications like nipple soreness or cracking. Proper care and preparation can help ensure a positive breastfeeding experience. Here are some tips for caring for and preparing nipples during breastfeeding:

⊙ **Care of Nipples:**

1) **Proper Latch and Positioning:**

- a) A good latch is crucial for effective breastfeeding and to prevent nipple trauma.





b) Ensure the baby's mouth covers not just the nipple but also a significant portion of the areola (the darkened area around the nipple).

2) **Monitor Feeding Duration:**

Avoid prolonged feedings to prevent nipple soreness. If necessary, gently break the suction to reposition the baby.

3) **Nipple Pain and Soreness:**

Address any pain or discomfort early. Consult a lactation consultant or healthcare provider if persistent soreness occurs.

4) **Breastfeeding Bras and Clothing:**

a) Choose bras and clothing that provide good support without putting pressure on the nipples.

b) Consider wearing nursing bras that allow easy access for breastfeeding.

5) **Nipple Care Between Feedings:**

a) Keep the nipples clean and dry. Avoid using soap directly on the nipples, as it can dry out the skin.

b) Air dry nipples after feeding if possible or gently pat dry with a soft cloth.

6) **Use of Lanolin or Nipple Cream:**

Apply a lanolin-based nipple cream or ointment after each feeding to soothe and protect the nipples. These products are safe for breastfeeding and provide a protective barrier.

▪ **Preparation Before Breastfeeding:**

1) **Warm Compress:**

Before feeding, applying a warm, moist compress to the breasts can help stimulate milk flow and make it easier for the baby to latch.

2) **Hand Expression:**

If the nipples are flat or inverted, gently massaging and hand expressing a small amount of milk before feeding can help stimulate the nipple and make latching easier.

3) **Positioning:**

Find a comfortable breastfeeding position that allows the baby to latch deeply and comfortably. Common positions include cradle hold, football hold, and side-lying position.

▪ **Handling Challenges:**

1) **Engorgement:**

Engorgement occurs when the breasts become overly full. Express a small amount of milk before feeding to soften the breast and make latching easier.

2) **Nipple Shields:**

In cases of severe nipple pain or latch difficulties, nipple shields can provide temporary relief. However, they should be used under the guidance of a lactation consultant to ensure proper use and maintenance of milk supply.

3) **Consultation:**

If experiencing persistent nipple pain, cracks, bleeding, or signs of infection (such as redness or warmth), consult a healthcare provider or lactation consultant promptly for evaluation and treatment.



- **Emotional Support:**
Seek Support: Joining breastfeeding support groups or consulting with a lactation consultant can provide encouragement, guidance, and solutions to breastfeeding challenges.
- **Conclusion:**
Caring for nipples during breastfeeding involves proper latch and positioning, monitoring for signs of discomfort, using appropriate nipple creams or ointments, and seeking help for persistent issues. With the right care and support, breastfeeding can be a positive and rewarding experience for both mother and baby.
- ◆ **In brief – Mamogenesis, lactogenesis, Galactokinesis, Galactopoiesis:**
These terms describe different stages and processes involved in the development and maintenance of lactation, from the formation of mammary glands to the ongoing production of milk. Here's an overview of each:
- ◆ **Mamogenesis:**
 - ⊙ **Definition:** Mamogenesis refers to the development and growth of the mammary glands.
 - ⊙ **Key Points:**
 - **During Pregnancy:** Mamogenesis begins during embryonic development but accelerates significantly during pregnancy under the influence of hormones like estrogen, progesterone, and prolactin.
 - **Changes:** Mammary glands undergo structural changes, including the proliferation of mammary epithelial cells and the formation of alveoli (milk-producing units).
- ◆ **Lactogenesis:**
 - ⊙ **Definition:** Lactogenesis is the process of milk production and secretion.
 - ⊙ **Stages:**
 - 1) **Lactogenesis I:** Begins during pregnancy and involves the preparation of the mammary glands for milk production. Hormonal changes stimulate the production of colostrum, the initial milk produced in late pregnancy and the first few days postpartum.
 - 2) **Lactogenesis II:** Occurs around 2-5 days after childbirth. Hormonal shifts trigger the transition from colostrum to mature milk production. Increased milk volume and changes in milk composition occur during this stage.
 - 3) **Lactogenesis III:** Also known as galactopoiesis, this stage involves the maintenance of established milk production to meet the ongoing demands of breastfeeding.
- ◆ **Galactokinesis:**
 - **Definition:** Galactokinesis refers to the movement or flow of milk within the mammary glands and through the ducts to the nipple for breastfeeding.
 - **Mechanism:** Galactokinesis is facilitated by the contraction of myoepithelial cells surrounding the alveoli and ducts in response to the release of oxytocin during breastfeeding or breast stimulation. This contraction helps propel milk towards the nipple for infant feeding.
- ◆ **Galactopoiesis:**
 - **Definition:** Galactopoiesis refers to the maintenance and regulation of milk production after lactogenesis, ensuring ongoing milk synthesis to meet the infant's nutritional needs.
 - **Factors Involved:**

- 1) **Hormonal Regulation:** Prolactin continues to play a key role in maintaining milk production by stimulating the synthesis of milk components within the mammary glands.
- 2) **Demand and Supply:** Milk production is influenced by the frequency and effectiveness of breastfeeding sessions. Emptying the breasts thoroughly signals the body to produce more milk.
- 3) **Nutritional and Hydration Status:** Adequate maternal nutrition and hydration support optimal milk production during galactopoiesis.

▪ **Conclusion:**

Understanding mamogenesis, lactogenesis, galactokinesis, and galactopoiesis provides insights into the complex biological processes involved in lactation. These stages highlight the dynamic nature of milk production, from the development of mammary glands during pregnancy to the ongoing synthesis and regulation of milk to nourish the infant during breastfeeding. Hormonal regulation, infant feeding cues, and maternal health factors all contribute to the success and sustainability of breastfeeding.

◆ **Ejection Reflex:**

The Ejection Reflex, also known as the Milk Ejection Reflex or Let-Down Reflex, is a critical physiological response during breastfeeding that facilitates the release of milk from the mammary glands into the milk ducts and out through the nipple. This reflex is essential for efficient breastfeeding and ensuring that the infant receives an adequate supply of milk. Here are the key aspects of the Ejection Reflex:

▪ **Definition and Mechanism:**

- **Definition:** The Ejection Reflex refers to the neurohormonal process that causes the release of milk from the alveoli (milk-producing glands) into the milk ducts within the breast.

- **Mechanism:**

- **Stimulation:** The Ejection Reflex is triggered by the stimulation of sensory nerve endings in the nipple and areola, typically initiated by the baby's sucking or by breast stimulation during breastfeeding.
- **Hormonal Response:** The stimulation leads to the release of oxytocin from the posterior pituitary gland into the bloodstream.
- **Oxytocin Effect:** Oxytocin causes the contraction of myoepithelial cells surrounding the alveoli and milk ducts within the breast.
- **Milk Release:** This contraction squeezes the milk from the alveoli into the ducts and towards the nipple, where it can be accessed by the infant for feeding.

▪ **Factors Influencing the Ejection Reflex:**

- **Sensory Stimulation:** Effective latch and suckling by the infant provide the necessary sensory input to trigger the reflex.
- **Emotional State:** Oxytocin release can also be influenced by emotions such as relaxation and feelings of warmth and closeness towards the baby.
- **Conditioning:** Over time, breastfeeding itself can become a conditioned stimulus that triggers the reflex.

- **Signs of the Ejection Reflex:**

- **Physical Sensations:** Lactating women may feel a tingling sensation or mild discomfort in the breasts just before milk begins to flow.
- **Visual or Auditory Cues:** Some women may notice milk leakage from the opposite breast not being nursed, or the sound of their baby's suckling can trigger the reflex.

- **Importance of the Ejection Reflex:**

- **Efficient Feeding:** Ensures that milk is readily available for the baby during breastfeeding sessions.
- **Milk Supply:** Regular stimulation of the Ejection Reflex helps maintain milk production and supply over time.
- **Bonding:** Facilitates bonding between mother and infant through close physical contact and feeding interactions.

- **Challenges and Management:**

- **Delayed or Absent Reflex:** Stress, anxiety, or discomfort can sometimes inhibit the Ejection Reflex. Relaxation techniques, ensuring comfortable breastfeeding positions, and seeking support from a lactation consultant can help.
- **Overactive Reflex:** Some women may experience an overactive reflex, leading to excessive milk flow or discomfort. Techniques such as gentle pressure on the nipple or switching feeding positions can help manage this.

- **Conclusion:**

The Ejection Reflex is a vital physiological process that enables effective breastfeeding by facilitating the release of milk from the breast to nourish the infant. Understanding its triggers, mechanisms, and management can support successful breastfeeding experiences for mothers and optimal nutrition for babies.

- ❖ **Nutrition during infancy:**

- ◆ **Infant physiology relevant to feeding and care.**

Understanding infant physiology relevant to feeding and care is crucial for providing optimal nutrition and ensuring the well-being of newborns and infants. Here are key aspects of infant physiology related to feeding and care:

- **Digestive System:**

- 1) **Stomach Capacity:**

Newborns have small stomachs at birth, holding about 1-2 ounces (30-60 ml) of milk per feeding. By one month, stomach capacity increases to about 2-4 ounces (60-120 ml).

- 2) **Digestive Enzymes:**

Limited at birth, digestive enzymes gradually increase over the first few months. Infants primarily produce enzymes for digesting fats and proteins, while enzyme production for carbohydrates develops later.

- 3) **Milk Digestion:**

Breast milk and formula are easily digestible for infants due to their composition, tailored to meet the nutritional needs of growing babies.



- **Immune System:**
 - 1) **Passive Immunity:**

Breast milk provides antibodies and immune factors that help protect infants from infections and illnesses, particularly during the first months of life.
 - 2) **Development:**

Immune system development continues after birth, with infants gradually building their own defenses through exposure to pathogens and vaccinations.
- **Respiratory System:**
 - **Nasal Breathing:**

Infants are obligate nasal breathers until around 3-4 months old, meaning they primarily breathe through their nose, which can affect feeding and comfort.
- **Neurological Development:**
 - 1) **Suckling Reflex:**

Newborns have a strong suckling reflex, enabling them to latch onto the breast or bottle to feed.
 - 2) **Rooting Reflex:**

When the infant's cheek is touched or lips stroked, they turn their head and open their mouth, facilitating breastfeeding.
- **Growth and Development:**
 - 1) **Weight Gain:**

Infants typically regain their birth weight by 2 weeks and continue to gain weight rapidly in the first year, doubling their birth weight by 4-6 months.
 - 2) **Motor Skills:**

Development of motor skills such as head control, reaching, and grasping progresses rapidly in the first year, influencing feeding behaviors and self-feeding readiness.
- **Feeding Patterns:**
 - 1) **Frequency:**

Newborns typically feed every 2-3 hours, with some variability. As they grow, feeding frequency may decrease, but each feeding session may last longer.
 - 2) **Nutritional Needs:**

Infants require a diet rich in fats, proteins, carbohydrates, vitamins, and minerals to support rapid growth and development.
- **Care Considerations:**
 - 1) **Positioning and Support:**

Proper positioning during breastfeeding or bottle-feeding ensures effective milk transfer and reduces the risk of ear infections or discomfort.
 - 2) **Burping:**

Burping helps release swallowed air during feeding, reducing gas and discomfort in infants.
 - 3) **Sleep Patterns:**

Infants sleep frequently and may wake for feedings during the day and night. Establishing a feeding and sleep routine helps support their overall well-being.



▪ **Conclusion:**

Understanding infant physiology related to feeding and care informs caregivers and parents about the unique needs of newborns and infants. Providing adequate nutrition, responsive care, and support for developmental milestones are essential for promoting healthy growth, immunity, and overall well-being during this critical stage of life.

◆ **Breast feeding - Colostrums, its composition and importance in feeding:**

Colostrum is the first milk produced by mammals, including humans, immediately after giving birth. It is known for its unique composition and vital importance in early feeding for newborns. Here are some key aspects:

▪ **Composition of Colostrum:**

1) **Nutrients and Energy:**

- a) Colostrum is rich in proteins, fats, and carbohydrates, providing essential nutrients needed by the newborn.
- b) It is relatively low in fat compared to mature milk but higher in protein and minerals.

2) **Antibodies (Immunoglobulins):**

- a) One of the most critical components of colostrum is its high concentration of immunoglobulins (antibodies), particularly IgA, IgG, and IgM.
- b) These antibodies are crucial for the newborn's immune system as they provide passive immunity, helping protect against infections until the baby's own immune system develops.

3) **Growth Factors:**

- a) Colostrum contains various growth factors such as insulin-like growth factors (IGF-1 and IGF-2), transforming growth factors (TGF- β), and epidermal growth factor (EGF).
- b) These factors promote the development and maturation of the newborn's gut, enhance nutrient absorption, and support the growth of various organs.

4) **Vitamins and Minerals:**

Colostrum supplies essential vitamins (like vitamin A, E, and K) and minerals (such as calcium, magnesium, and zinc) necessary for the newborn's growth and development.

5) **Prebiotics and Probiotics:**

- a) It contains prebiotics (such as oligosaccharides) that support the growth of beneficial gut bacteria.
- b) Some forms of colostrum also contain probiotics naturally, further enhancing gut health.

▪ **Importance of Colostrum:**

1) **Immune Protection:**

Colostrum provides passive immunity to the newborn, protecting against infections during the critical early days of life when the immune system is still developing.

2) **Nutritional Support:**

It supplies essential nutrients in a highly concentrated form, meeting the nutritional needs of the newborn.

3) **Gut Maturation:**

The growth factors and other bioactive components in colostrum help in the maturation and sealing of the newborn's gut, reducing the risk of infections and promoting better nutrient absorption.



4) **Long-term Health Benefits:**

Studies suggest that breastfeeding with colostrum may confer long-term health benefits, including lower risks of allergies, asthma, and other immune-related disorders.

▪ **Feeding and Timing:**

- **Timing:** Colostrum is produced in small quantities (compared to mature milk) in the first few days after birth.
- **Frequency:** Newborns typically feed frequently in the initial days to receive the benefits of colostrum.
- **Transition to Mature Milk:** Gradually, over a few days, colostrum transitions into mature milk, which has a different composition suited for the growing needs of the infant.

In summary, colostrum is not only rich in nutrients but also plays a crucial role in providing immune protection and supporting the overall health and development of newborns. Its composition is tailored to meet the specific needs of infants in their first days of life, making it an irreplaceable part of early feeding.

◆ **Initiation of breast-feeding and duration of breast-feeding:**

Initiation and duration of breastfeeding are crucial aspects of infant nutrition and health. Here's a detailed look at both:

▪ **Initiation of Breastfeeding:**

1) **Timing:**

Ideally, breastfeeding should be initiated within the first hour after birth. This early initiation is important because the newborn is most alert and receptive to feeding during this period, and the mother's breasts are primed to produce colostrum, the first milk.

2) **Colostrum Feeding:**

Colostrum is highly nutritious and contains antibodies that provide essential immunity to the newborn. Early feeding ensures that the infant receives these crucial nutrients and antibodies, which help protect against infections and support the development of the immune system.

3) **Skin-to-Skin Contact:**

Skin-to-skin contact between the mother and newborn immediately after birth helps stimulate breastfeeding initiation. This practice promotes bonding, regulates the baby's temperature and heart rate, and facilitates the release of hormones that support milk production.

4) **Latching and Positioning:**

Proper latching and positioning are essential for effective breastfeeding. Latching refers to how the baby attaches to the breast, ensuring they can extract milk efficiently. Correct positioning helps prevent nipple soreness and ensures the baby gets enough milk.

5) **Support and Education:**

Healthcare providers play a crucial role in supporting mothers to initiate breastfeeding successfully. Prenatal education about breastfeeding benefits and techniques can empower mothers to feel confident in starting and continuing breastfeeding.





▪ **Duration of Breastfeeding:**

1) **Exclusive Breastfeeding:**

The World Health Organization (WHO) recommends exclusive breastfeeding (only breast milk, no other liquids or solids) for the first six months of life. Breast milk provides all the nutrients and fluids a baby needs during this period.

2) **Continued Breastfeeding:**

After six months, breastfeeding should continue alongside complementary foods for up to two years or beyond, as mutually desired by the mother and child. Breast milk remains an important source of nutrition and immune protection.

3) **Benefits of Long-term Breastfeeding:**

Long-term breastfeeding (beyond six months) continues to provide numerous health benefits for both the infant and mother. It supports optimal growth and development, reduces the risk of infections, allergies, and chronic diseases in the child, and may enhance cognitive development.

4) **Challenges and Support:**

While breastfeeding is natural, it can present challenges such as latching difficulties, milk supply concerns, or maternal health issues. Access to lactation support, counseling, and community resources can help mothers overcome these challenges and continue breastfeeding successfully.

5) **Cultural and Social Factors:**

Cultural beliefs, societal norms, and workplace policies influence breastfeeding practices. Supportive environments that promote breastfeeding-friendly policies, such as maternity leave, breastfeeding breaks, and lactation rooms, can facilitate sustained breastfeeding.

In conclusion, the initiation of breastfeeding immediately after birth and the duration of breastfeeding are critical for infant health and well-being. Early initiation ensures that newborns receive colostrum and essential nutrients, while continued breastfeeding provides ongoing nutritional and immunological benefits throughout infancy and beyond. Supporting mothers with education, guidance, and a supportive environment is essential for successful breastfeeding initiation and continuation.

◆ **Advantages of exclusive breast-feeding:**

Exclusive breastfeeding, defined as feeding infants only breast milk (no other liquids or solids) for the first six months of life, offers numerous advantages for both infants and mothers. Here are the key advantages:

▪ **Advantages for Infants:**

1) **Nutritional Benefits:**

Breast milk is uniquely tailored to meet the nutritional needs of infants, providing ideal proportions of proteins, fats, carbohydrates, vitamins, and minerals. It is easily digestible and bioavailable, ensuring optimal growth and development.

2) **Immune Protection:**

Colostrum, the first milk produced after birth, is rich in antibodies (immunoglobulins), white blood cells, and other immune factors. These components provide passive immunity and help protect the infant against infections, such as respiratory infections, diarrhea, and ear infections.





3) **Reduced Risk of Allergies and Chronic Diseases:**

Exclusive breastfeeding has been associated with a lower risk of allergies, asthma, eczema, and other allergic diseases later in life. It also contributes to a reduced risk of childhood obesity, type 1 diabetes, and certain childhood cancers.

4) **Promotes Optimal Growth and Development:**

Breastfeeding supports healthy brain development due to the presence of long-chain polyunsaturated fatty acids (LCPUFAs), such as DHA (docosahexaenoic acid), which are important for cognitive function and vision.

5) **Digestive Health:**

Breast milk contains probiotics and prebiotics that promote the growth of beneficial bacteria in the infant's gut (microbiota). This helps maintain gut health, supports immune function, and may reduce the risk of gastrointestinal infections.

6) **Emotional Bonding and Security:**

Breastfeeding fosters emotional bonding and closeness between mother and baby through skin-to-skin contact, eye contact, and soothing sounds. This nurturing environment contributes to the infant's emotional security and overall well-being.

▪ **Advantages for Mothers:**

1) **Promotes Maternal Health:**

Breastfeeding helps mothers recover from childbirth more quickly by promoting uterine contractions and reducing postpartum bleeding. It also lowers the risk of postpartum depression and may reduce the risk of breast and ovarian cancers.

2) **Convenience and Cost Savings:**

Breastfeeding is convenient as breast milk is always available, at the right temperature, and requires no preparation. It eliminates the need for formula feeding equipment, sterilization, and purchasing formula, resulting in significant cost savings.

3) **Natural Contraception (Lactational Amenorrhea Method - LAM):**

Exclusive breastfeeding can delay the return of menstruation and fertility in some women, providing a natural form of contraception during the first six months postpartum when certain conditions (such as exclusive breastfeeding day and night) are met.

4) **Environmental Impact:**

Breastfeeding is environmentally friendly as it produces no waste (no cans or bottles) and requires no resources for production, packaging, or transportation, reducing the carbon footprint associated with infant feeding.

5) **Bonding and Emotional Satisfaction:**

Breastfeeding promotes a strong emotional bond between mother and baby, enhancing maternal satisfaction and confidence in caregiving abilities.

In summary, exclusive breastfeeding for the first six months of life offers significant health, nutritional, emotional, and economic benefits for both infants and mothers. It supports optimal growth and development, provides immune protection, promotes maternal health, and strengthens the bond between mother and baby. Supporting mothers to initiate and continue exclusive breastfeeding is crucial for achieving these benefits and ensuring the best start in life for infants.



◆ **Nutritional and other advantages of breast-feeding:**

Breastfeeding provides numerous nutritional and other advantages for both infants and mothers. Here's a detailed overview of these benefits:

▪ **Nutritional Advantages for Infants:**

1) **Optimal Nutrition:**

Breast milk is uniquely tailored to meet the nutritional needs of infants, providing a perfect balance of proteins, fats, carbohydrates, vitamins, and minerals. The composition of breast milk changes to meet the evolving needs of the growing baby.

2) **Bioavailability and Digestibility:**

Breast milk is highly bioavailable, meaning its nutrients are easily absorbed and utilized by the infant's immature digestive system. This promotes optimal growth and development.

3) **Immune Protection:**

Colostrum, the first milk produced after birth, is rich in antibodies (immunoglobulins), white blood cells, and other immune factors. These components provide passive immunity and protect the infant against infections, reducing the risk of diarrhea, respiratory infections, ear infections, and other illnesses.

4) **Healthy Growth and Development:**

Breast milk contains essential fatty acids like DHA (docosahexaenoic acid) and ARA (arachidonic acid), which are crucial for brain development, cognitive function, and vision.

5) **Gut Health:**

Breast milk contains probiotics and prebiotics that support the growth of beneficial bacteria in the infant's gut. This promotes a healthy gut microbiome, which is important for immune function, digestion, and nutrient absorption.

6) **Reduced Risk of Chronic Diseases:**

Breastfeeding has been linked to a lower risk of childhood obesity, type 1 and type 2 diabetes, asthma, allergies, eczema, and certain childhood cancers.

▪ **Other Advantages for Infants:**

1) **Emotional Bonding:**

Breastfeeding fosters a strong emotional bond between mother and baby through skin-to-skin contact, eye contact, and the release of oxytocin (the bonding hormone). This nurturing environment promotes emotional security and supports the baby's social and emotional development.

2) **Convenience and Availability:**

Breast milk is always available, at the right temperature, and requires no preparation or sterilization. This makes breastfeeding convenient for mothers and ensures that the baby is fed whenever hungry.

3) **Natural Pacifier:**

Breastfeeding can soothe and comfort the baby, offering a natural way to calm and reassure them during times of distress or discomfort.



▪ **Advantages for Mothers:**

1) **Postpartum Recovery:**

Breastfeeding promotes uterine contractions, helping the uterus return to its pre-pregnancy size more quickly and reducing postpartum bleeding. It also aids in maternal weight loss by burning extra calories.

2) **Reduced Risk of Breast and Ovarian Cancers:**

Breastfeeding has been associated with a reduced risk of breast and ovarian cancers in mothers, especially if breastfeeding is prolonged.

3) **Emotional Benefits:**

Breastfeeding releases hormones such as oxytocin and prolactin, which promote relaxation, bonding, and maternal satisfaction. It enhances maternal confidence and fosters a close emotional connection with the baby.

4) **Contraceptive Effect:**

Exclusive breastfeeding can delay the return of menstruation and fertility in some women, providing a natural form of contraception known as the Lactational Amenorrhea Method (LAM).

5) **Environmental Impact:**

Breastfeeding is environmentally friendly as it produces no waste (no cans or bottles) and requires no resources for production, packaging, or transportation.

In conclusion, breastfeeding offers a wide range of nutritional, immunological, emotional, and practical advantages for both infants and mothers. It supports optimal growth and development, provides immune protection, promotes maternal health, and strengthens the bond between mother and baby. Encouraging and supporting breastfeeding is crucial for ensuring the best possible start in life for infants and promoting the well-being of mothers.

◆ **Introduction of complementary foods, initiation of management of weaning, breast feeding etc.:**

Introducing complementary foods and managing the weaning process are important milestones in a child's development, particularly as they transition from exclusive breastfeeding or formula feeding to a more varied diet. Here's a comprehensive guide on these topics:

▪ **Introduction of Complementary Foods:**

1) **Timing:**

The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life. Around six months of age, infants should begin receiving complementary foods while breastfeeding continues up to two years or beyond.

2) **Signs of Readiness:**

Signs that a baby is ready for complementary foods include:

- a) Showing interest in food and reaching for it.
- b) Ability to sit upright with support and good head control.
- c) Loss of the tongue-thrust reflex (pushing food out of the mouth with the tongue).

3) **Types of Complementary Foods:**

- a) Complementary foods should be nutrient-dense, age-appropriate, and introduced one at a time, allowing time to monitor for any allergies or intolerances.





b) Examples include pureed fruits and vegetables, iron-fortified cereals, mashed legumes, small pieces of soft-cooked fruits and vegetables, and eventually, well-cooked meats and fish.

4) Feeding Practices:

- a) Start with small amounts of food once a day, gradually increasing to two to three meals per day as the baby shows interest and readiness.
- b) Offer breast milk or formula before offering solid foods until around 12 months of age when solids become more nutritionally significant.

5) Responsive Feeding:

Practice responsive feeding, where caregivers pay attention to the baby's hunger and satiety cues. This helps develop healthy eating habits and ensures the baby gets enough nutrition.

▪ **Initiation and Management of Weaning:**

1) Gradual Transition:

- a) Weaning refers to the gradual process of transitioning the baby from breast milk or formula to a more varied diet that includes solid foods.
- b) It can start around six months of age but should be done gradually to allow the baby time to adjust both nutritionally and emotionally.

2) Factors to Consider:

Weaning can be initiated for various reasons, such as the baby's increasing nutritional needs, maternal return to work, or when the baby shows signs of readiness for more solid foods.

3) Breastfeeding During Weaning:

Breastfeeding can continue alongside complementary foods for as long as desired by both mother and baby. The process of weaning from breastfeeding can be gradual, involving dropping one feed at a time, starting with the least preferred feed.

4) Emotional Aspects:

Weaning is a significant transition for both mother and baby and may involve emotional adjustments. It's important for caregivers to provide comfort and reassurance during this process.

5) Nutritional Continuity:

Ensure that the baby continues to receive adequate nutrition through a balanced diet that includes a variety of foods from all food groups. This supports growth, development, and overall health.

▪ **Practical Tips:**

- 1) **Introduce New Foods Carefully:** Introduce one new food at a time and wait a few days before introducing another to monitor for allergies or reactions.
- 2) **Texture Progression:** Gradually increase the texture of foods as the baby grows older and becomes more adept at chewing and swallowing.
- 3) **Variety and Balance:** Offer a variety of foods from different food groups to ensure a balanced diet that meets the baby's nutritional needs.
- 4) **Hydration:** Offer water in a sippy cup or small open cup with meals to help the baby stay hydrated, especially when introducing solid foods.
- 5) **Patience and Persistence:** Be patient as babies may initially reject new foods or textures. It can take multiple exposures before they accept and enjoy new foods.



In conclusion, the introduction of complementary foods and the process of weaning are important stages in a baby's development. By following recommended practices and being responsive to the baby's cues, caregivers can ensure a smooth transition to a varied diet while continuing to support the baby's nutritional needs and overall well-being.

◆ **Bottle feeding circumstances under which bottle-feeding is to be given:**

Bottle feeding, typically involving infant formula or expressed breast milk, is recommended under specific circumstances when breastfeeding is not possible or practical. Here are common situations where bottle feeding may be necessary or preferred:

▪ **Circumstances for Bottle Feeding:**

1) **Maternal Health Issues:**

- a) **Medical Conditions:** If the mother has certain medical conditions (e.g., HIV infection, active tuberculosis, certain medications incompatible with breastfeeding) that make breastfeeding unsafe for the infant.
- b) **Breast Surgery:** After breast surgery that affects milk production or nipple function, making breastfeeding difficult or impossible.
- c) **Low Milk Supply:** In cases where the mother has insufficient milk production despite efforts to increase supply through lactation support.

2) **Infant Health Issues:**

- a) **Premature Birth:** Premature infants who may initially require feeding through tube feeding or who have difficulty latching onto the breast due to immature sucking reflexes.
- b) **Special Nutritional Needs:** Infants with specific medical conditions or allergies that require specialized formula or fortified breast milk.
- c) **Oral Aversion or Difficulty Latching:** Infants who have difficulty latching properly due to anatomical issues, tongue tie, or other oral motor difficulties.

3) **Logistical or Lifestyle Factors:**

- a) **Return to Work:** When the mother needs to return to work or school and cannot breastfeed directly throughout the day, expressing milk for bottle feeding allows for continued breast milk feeding.
- b) **Travel or Separation:** During travel or times of separation from the baby when direct breastfeeding is not feasible.

4) **Parental Choice:**

Personal Preference: Some parents may choose to formula feed from birth or introduce bottle feeding early for personal reasons or lifestyle preferences.

▪ **Considerations for Bottle Feeding:**

- **Proper Preparation:** Ensure bottles, nipples, and formula or expressed breast milk are prepared and stored safely according to guidelines to minimize the risk of contamination and ensure proper nutrition.
- **Feeding Responsiveness:** Mimic the responsiveness and bonding associated with breastfeeding by holding the baby close, maintaining eye contact, and responding to cues of hunger and fullness.



- **Nutritional Guidance:** Seek guidance from healthcare providers on choosing appropriate formula, feeding schedules, and proper feeding techniques to promote healthy growth and development.
- **Support for Breastfeeding and Bottle Feeding:**
 - **Breastfeeding Support:** Even when bottle feeding is necessary or preferred, it's beneficial to seek support from lactation consultants or breastfeeding counselors to explore options for maintaining breastfeeding or expressing milk.
 - **Parental Well-being:** Support parents in their feeding choices by providing information, resources, and encouragement to make informed decisions based on their individual circumstances and preferences.

In summary, bottle feeding is a practical alternative to breastfeeding in situations where direct breastfeeding is not possible or chosen. Ensuring proper preparation, responsive feeding practices, and ongoing support can help optimize feeding experiences and promote infant health and well-being.

◆ **Care and sterilization of bottles:**

Proper care and sterilization of bottles used for bottle feeding are essential to maintain hygiene and ensure the safety of infants. Here's a detailed guide on how to clean and sterilize bottles effectively:

▪ **Cleaning Baby Bottles:**

1) **Immediate Rinse:**

After each feeding, rinse the bottle, nipple, and any parts (such as caps, rings, and valves) with cold or lukewarm water to remove milk or formula residue.

2) **Use Mild Soap and Hot Water:**

Wash bottles and parts thoroughly with hot, soapy water. Use a bottle brush specifically designed for cleaning baby bottles to reach all parts, including inside the nipple and bottle.

3) **Thorough Rinse:**

Rinse all soap residue off the bottles and parts with clean, running water to ensure no soap is left behind.

4) **Air Dry or Towel Dry:**

Allow bottles and parts to air dry on a clean drying rack or use a clean towel designated for baby items. Avoid using cloths or sponges that may harbor bacteria.

5) **Storage:**

Once dry, store bottles and parts in a clean, covered container until ready for use. Ensure they are stored in a clean environment to prevent contamination.

▪ **Sterilizing Baby Bottles:**

1) **Frequency:**

Sterilization is most crucial for newborns and infants up to about 3-4 months old, as their immune systems are still developing. After this age, regular cleaning and occasional sterilization are generally sufficient.

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2) Methods of Sterilization:

- a) **Boiling:** Submerge disassembled bottles and parts in a pot of boiling water. Ensure all parts are fully submerged and boil for at least 5 minutes. Use clean tongs to remove items and allow them to air dry on a clean surface.
- b) **Steam Sterilizers:** Electric steam sterilizers are convenient and effective. Follow the manufacturer's instructions for proper use and duration of sterilization cycles.
- c) **Microwave Sterilizers:** Use microwave-safe sterilizing bags or containers designed for baby bottles. Follow the instructions provided with the product.
- d) **Chemical Sterilization:** Some parents use chemical sterilizing solutions or tablets specifically made for baby bottles. Follow instructions carefully and ensure thorough rinsing afterward to remove any residue.

3) Avoid Over-Sterilizing:

Over-sterilization or using excessively high temperatures can damage bottles and shorten their lifespan. Follow recommended guidelines to balance effective sterilization with maintaining bottle integrity.

4) Water Quality:

Use clean and safe water when boiling or using steam sterilizers to prevent introducing contaminants to the bottles.

5) Storage After Sterilization:

Handle sterilized bottles and parts with clean hands or utensils to maintain their cleanliness. Store in a covered container or assemble and use immediately.

▪ Additional Tips:

- **Inspect Bottles Regularly:** Check bottles for signs of wear, cracks, or damage. Replace any damaged bottles or nipples promptly to ensure safety.
- **Traveling with Bottles:** When traveling, carry sterilized bottles in a clean, sealed container. Use them within 24 hours or re-sterilize as necessary.
- **Maintain Clean Feeding Environment:** Wash hands thoroughly before handling bottles or preparing formula to prevent contamination.

By following these guidelines for cleaning and sterilizing bottles used for bottle feeding, caregivers can ensure a safe and hygienic feeding environment for infants, supporting their health and well-being. Regular maintenance and attention to cleanliness are key to preventing bacterial growth and maintaining the integrity of feeding equipment.

◆ Preparation of formula

Preparing formula feeding safely is crucial to ensure infants receive proper nutrition and minimize the risk of contamination. Here's a step-by-step guide on how to prepare formula feeding:

▪ **Step-by-Step Guide to Preparation:**

1) **Wash Hands:**

Wash your hands thoroughly with soap and water before handling formula or feeding equipment.

2) **Clean Preparation Area:**

Ensure the area where you will prepare the formula is clean and free from potential contaminants.





3) **Boil Water:**

Boil fresh water and allow it to cool for no more than 30 minutes. Water should be at a temperature of about 70°C (158°F) to kill any harmful bacteria present in the powdered formula.

4) **Measure Water:**

Carefully measure the amount of water needed according to the formula's instructions. Use the provided scoop or measuring cup that comes with the formula.

5) **Add Formula Powder:**

Add the correct amount of formula powder to the water. Use the scoop provided in the formula container and level it off with a clean knife or the edge of the can.

6) **Mix Thoroughly:**

Gently swirl or stir the mixture until the powder is completely dissolved. Avoid shaking the bottle vigorously to minimize air bubbles, which can cause gas and discomfort for the baby.

7) **Cool to Feeding Temperature:**

Allow the formula to cool to a safe temperature before feeding. Test the temperature by dropping a few drops on the inside of your wrist. It should feel lukewarm, not hot.

8) **Feed Promptly:**

Feed the prepared formula to the baby promptly after preparation to ensure freshness and minimize the risk of bacterial growth.

9) **Discard Unused Formula:**

Any formula left in the bottle after feeding should be discarded. Do not refrigerate and reuse formula that has already been mixed and served.

▪ **Tips for Safe Formula Feeding:**

- **Follow Manufacturer's Instructions:** Always follow the instructions on the formula container regarding mixing ratios and feeding amounts.
- **Use Safe Water:** Use boiled water that has been cooled to no more than 70°C (158°F) to mix formula. If using bottled water, ensure it is suitable for infant consumption.
- **Sterilize Equipment:** Sterilize bottles, nipples, caps, and other feeding equipment before first use, and regularly thereafter, especially for newborns.
- **Storage of Formula:** Store unopened formula containers in a cool, dry place. Once opened, store formula in a tightly sealed container and use within the recommended timeframe.
- **Consult Healthcare Providers:** If unsure about formula feeding or your baby's nutritional needs, consult your pediatrician or a lactation consultant for guidance.

By following these steps and tips, caregivers can ensure that formula feeding is done safely and hygienically, providing infants with the nutrition they need for healthy growth and development.

◆ **Mixed feeding, breast feeding and artificial feeding**

Mixed feeding, also known as combination feeding, involves providing infants with both breast milk and artificial feed (formula milk). This approach is chosen for various reasons, including maternal preference, breastfeeding challenges, or the need for flexibility in feeding practices. Here's an overview of mixed feeding, its benefits, considerations, and how to manage it effectively:





- **Benefits of Mixed Feeding:**

- 1) **Flexibility:**

Mixed feeding allows parents to alternate between breastfeeding and bottle feeding with formula, providing flexibility in feeding schedules and allowing others to participate in feeding.

- 2) **Supplemental Nutrition:**

It ensures that infants receive sufficient nutrition, even if breastfeeding alone is insufficient due to low milk supply or other issues.

- 3) **Maternal Well-being:**

It can alleviate pressure on mothers who may experience challenges with breastfeeding, such as latch difficulties, sore nipples, or medical reasons preventing breastfeeding.

- 4) **Supports Extended Breastfeeding:**

Mixed feeding can facilitate extended breastfeeding by allowing mothers to continue breastfeeding while supplementing with formula as needed, especially as infants grow and their nutritional needs change.

- **Considerations for Mixed Feeding:**

- 1) **Nipple Confusion:**

Introducing bottles early on may lead to nipple confusion, where babies find it challenging to switch between breastfeeding and bottle feeding due to differences in sucking techniques.

- 2) **Maintaining Milk Supply:**

For mothers who wish to continue breastfeeding, it's important to nurse frequently and express milk when away from the baby to maintain milk supply.

- 3) **Hygiene and Preparation:**

Proper hygiene and preparation of formula feeding equipment are crucial to prevent contamination and ensure the safety of infants.

- 4) **Nutritional Balance:**

Ensure that the baby receives a balanced diet with both breast milk and formula, following guidance from healthcare providers on appropriate amounts and types of formula.

- **Managing Mixed Feeding Effectively:**

- 1) **Establish Breastfeeding First:**

Begin breastfeeding exclusively if possible for the first several weeks to establish milk supply and breastfeeding routine.

- 2) **Introduce Bottles Gradually:**

Wait until breastfeeding is well-established before introducing bottles and formula to minimize nipple confusion. Start with one bottle feeding per day and gradually increase as needed.

- 3) **Responsive Feeding:**

Whether breastfeeding or bottle feeding, practice responsive feeding by responding to the baby's hunger cues and ensuring comfortable feeding positions.

- 4) **Monitor Growth and Development:**

Regularly monitor the baby's growth and development to ensure they are receiving adequate nutrition from both breast milk and formula.



5) **Seek Support:**

- a. Consult with lactation consultants or healthcare providers for guidance on breastfeeding techniques, milk supply, formula selection, and managing mixed feeding effectively.

▪ **Conclusion:**

Mixed feeding provides a balanced approach to infant feeding, combining the benefits of breast milk and formula while accommodating various parental and infant needs. By understanding the considerations, managing feeding transitions carefully, and seeking support when needed, caregivers can ensure that infants receive optimal nutrition and care during their early months and beyond.

◆ **Artificial feeding:**

Artificial feeding, also known as formula feeding, involves feeding infants with infant formula instead of breast milk. This method of feeding is chosen for various reasons, including personal preference, medical reasons, or logistical considerations. Here's an overview of artificial feeding, its types, preparation, benefits, considerations, and tips for safe practice:

▪ **Types of Infant Formula:**

1) **Cow's Milk-Based Formula:**

Most commonly used and generally well-tolerated by infants. It is made from cow's milk that has been modified to resemble breast milk in nutrient composition.

2) **Soy-Based Formula:**

Used for infants who are allergic to cow's milk protein or for families who prefer a plant-based diet. It is made from soybeans and fortified with nutrients.

3) **Hydrolyzed Formula:**

Designed for infants with allergies to cow's milk protein or soy protein. The proteins are broken down (hydrolyzed) into smaller parts that are easier to digest.

4) **Specialized Formulas:**

Available for specific medical conditions such as premature birth, lactose intolerance, or metabolic disorders. These formulas are prescribed by healthcare providers.

▪ **Preparation of Formula Feeding:**

1) **Wash Hands:**

Wash hands thoroughly with soap and water before handling formula and feeding equipment.

2) **Boil Water:**

Boil fresh water and allow it to cool to about 70°C (158°F) before mixing with formula powder. Using water that is too hot can destroy nutrients in the formula.

3) **Measure Water:**

Measure the correct amount of cooled, boiled water according to the instructions on the formula packaging. Use the scoop provided with the formula and level it off.

4) **Add Formula Powder:**

Add the specified amount of formula powder to the water. Use the scoop provided and level off excess powder with a clean knife or the edge of the can.

5) **Mix Thoroughly:**

Gently swirl or stir the mixture until all the powder is completely dissolved. Avoid shaking vigorously to prevent air bubbles, which can cause gas in the baby.



6) **Check Temperature:**

Test the temperature of the formula by placing a few drops on the inside of your wrist. It should feel lukewarm, not hot.

7) **Feed Promptly:**

Feed the prepared formula to the baby promptly after preparation to ensure freshness and minimize the risk of bacterial growth.

8) **Discard Unused Formula:**

Any formula left in the bottle after feeding should be discarded. Do not refrigerate and reuse formula that has already been mixed and served.

▪ **Benefits of Artificial Feeding:**

- 1) **Convenience:** Formula feeding allows flexibility in feeding schedules and enables others to participate in feeding.
- 2) **Accessibility:** It provides a viable feeding option when breastfeeding is not possible or chosen.
- 3) **Nutritional Content:** Modern infant formulas are carefully formulated to provide balanced nutrition essential for infant growth and development.

▪ **Considerations for Artificial Feeding:**

- **Cost:** Formula feeding can be costly compared to breastfeeding, especially over an extended period.
- **Hygiene:** Proper cleaning and sterilization of bottles, nipples, and other feeding equipment are essential to prevent contamination.
- **Feeding Responsiveness:** Pay attention to the baby's hunger cues and adjust feeding amounts as needed to ensure adequate nutrition.
- **Consultation:** Consult healthcare providers for guidance on formula selection, preparation, feeding techniques, and monitoring infant growth and development.

▪ **Conclusion:**

Artificial feeding with infant formula is a safe and viable option for feeding infants when breastfeeding is not feasible or chosen. By following recommended guidelines for preparation, hygiene, and feeding practices, caregivers can ensure that infants receive optimal nutrition and care during their early months and beyond. Regular monitoring and consultation with healthcare providers are essential for supporting healthy growth and development in formula-fed infants.

◆ **Teething and management of problems:**

Teething is a natural process during which an infant's teeth begin to emerge through the gums. It typically begins around 6 months of age but can vary widely among infants. Teething can cause discomfort and irritability in babies, but there are several strategies to help manage these problems effectively:

▪ **Signs and Symptoms of Teething:**

- 1) **Irritability and Fussiness:** Babies may be more irritable than usual and may cry more frequently.
- 2) **Gum Swelling and Sensitivity:** The gums may appear swollen, red, and tender where the teeth are erupting.
- 3) **Drooling:** Increased saliva production is common during teething, which can cause drooling.
- 4) **Chewing and Biting:** Babies often chew on objects or their fingers to relieve the discomfort.





5) **Disrupted Sleep:** Teething discomfort can sometimes lead to disrupted sleep patterns.

▪ **Management of Teething Problems:**

- 1) **Teething Toys:** Provide teething toys made of firm rubber or silicone that are safe for chewing. Chilled (not frozen) teething toys can provide soothing relief for sore gums.
- 2) **Gentle Gum Massage:** Use a clean finger or a damp gauze pad to gently massage the baby's gums. This can help reduce discomfort and pressure.
- 3) **Chilled Washcloth:** Dampen a clean washcloth, then chill it in the refrigerator (not freezer) before giving it to the baby to chew on. The texture and cold can provide relief.
- 4) **Cold Foods:** Offer chilled (not frozen) foods such as refrigerated applesauce or yogurt. Ensure the foods are appropriate for the baby's age and stage of development.
- 5) **Pain Relief Medication:** If the baby is very uncomfortable, pain relief medications such as infant acetaminophen or ibuprofen (if the baby is over 6 months) can be used. Always follow the dosage instructions provided by the healthcare provider.
- 6) **Distraction and Comfort:** Provide extra cuddles, soothing music, or distraction with toys to help comfort the baby during teething episodes.
- 7) **Maintain Oral Hygiene:** Continue to gently clean the baby's gums and emerging teeth with a clean damp cloth or infant toothbrush to prevent bacteria buildup.

▪ **Things to Avoid:**

- **Frozen Teething Rings:** Avoid freezing teething rings or toys as they can be too hard and may cause injury to the baby's gums.
- **Homeopathic Teething Tablets:** Some of these products may contain ingredients that can be harmful to infants. It's best to consult with a healthcare provider before using them.
- **Amber Teething Necklaces:** There is no scientific evidence to support the effectiveness of amber teething necklaces, and they pose a choking or strangulation hazard.

▪ **When to Consult a Healthcare Provider:**

- **Fever:** If the baby develops a fever (temperature over 100.4°F or 38°C), consult a healthcare provider.
- **Excessive Irritability:** If the baby seems excessively irritable or in severe pain despite home remedies.
- **Refusal to Eat or Drink:** If teething causes the baby to refuse to eat or drink.
- **Rashes:** If teething is accompanied by a rash around the mouth or chin.

In conclusion, teething is a normal developmental process that can cause discomfort for infants. By using safe and effective management strategies, caregivers can help alleviate teething symptoms and provide comfort to their babies during this milestone. Regular communication with a healthcare provider can ensure appropriate management and support throughout the teething process.

◆ **Food intolerance in infant – Lactose/ Protein/ Fat**

Food intolerance in infants, whether to lactose, protein, or fat, can present challenges in feeding and require careful management to ensure the baby receives proper nutrition without discomfort or adverse reactions. Here's an overview of each type of intolerance and how it may manifest in infants:





◆ Lactose Intolerance:

Lactose intolerance occurs when the baby lacks or has insufficient amounts of lactase, the enzyme needed to digest lactose, the sugar found in milk and dairy products. In infants, true lactose intolerance is rare but can occur in premature babies or those with certain medical conditions. More commonly, infants may experience temporary lactose intolerance due to conditions like gastroenteritis (stomach flu).

⊙ Signs and Symptoms:

- **Gas and Bloating:** Excessive gas production leading to discomfort and bloating.
- **Diarrhea:** Loose or watery stools that may be frequent.
- **Fussiness:** Increased irritability and crying after feeding.

⊙ Management:

- **Breastfeeding:** For breastfeeding infants, continuing breastfeeding is usually recommended. Lactose intolerance in breastfed babies is extremely rare.
- **Formula Feeding:** Use lactose-free or low-lactose formulas designed for infants with lactose intolerance.
- **Medical Advice:** Consult a pediatrician for proper diagnosis and guidance on management.

◆ Protein Intolerance (Cow's Milk Protein Allergy):

Cow's milk protein allergy (CMPA) is an immune reaction to the proteins found in cow's milk, typically casein or whey. It can occur in both breastfed and formula-fed infants.

⊙ Signs and Symptoms:

- **Skin Reactions:** Rash, eczema, or hives.
- **Digestive Issues:** Vomiting, diarrhea, or constipation.
- **Respiratory Symptoms:** Wheezing or nasal congestion.
- **Fussiness:** Irritability and discomfort after feeding.

⊙ Management:

- **Elimination Diet:** For breastfed babies, the mother may need to eliminate dairy products from her diet.
- **Hypoallergenic Formula:** Use extensively hydrolyzed or amino acid-based formulas for infants who are formula-fed and diagnosed with CMPA.
- **Medical Supervision:** It's crucial to work closely with a pediatrician or allergist to confirm the diagnosis and ensure proper nutrition.

⊙ Fat Intolerance:

Fat intolerance in infants is less common but can occur due to conditions affecting fat digestion or absorption, such as certain gastrointestinal disorders.

⊙ Signs and Symptoms:

- **Frequent, Pale, or Foul-Smelling Stools:** Indicating malabsorption of fats.
- **Weight Loss or Poor Weight Gain:** Due to inadequate absorption of nutrients.
- **Abdominal Distension:** Bloating and discomfort after feeding.

⊙ Management:

- **Specialized Formulas:** Medium-chain triglyceride (MCT) oil or structured lipid formulas may be recommended for infants with fat malabsorption.





- **Medical Evaluation:** Consultation with a pediatric gastroenterologist for diagnosis and management.

⊙ **General Considerations for Food Intolerances:**

- **Diagnosis:** Accurate diagnosis by a healthcare professional is essential for effective management.
- **Nutritional Needs:** Ensure the baby receives adequate nutrition through appropriate formulas or alternative feeding strategies.
- **Monitoring:** Regular monitoring of growth, symptoms, and nutritional intake is important.
- **Parent Education:** Educate parents and caregivers on recognizing symptoms and following recommended feeding practices.

Managing food intolerances in infants requires careful observation, consultation with healthcare providers, and tailored feeding strategies to support optimal growth and development while minimizing discomfort and adverse reactions.

❖ **Nutrition to toddlers / preschool/school going children or adolescent**

Nutrition is crucial for toddlers, preschoolers, and school-going children as it directly impacts their growth, development, and overall health. Here's a comprehensive guide on nutrition for children in these age groups:

◆ **Toddlers (1-3 Years):**

1) **Balanced Diet Components:**

- a) **Fruits and Vegetables:** Offer a variety of colorful fruits and vegetables daily. They provide essential vitamins, minerals, and fiber.
- b) **Proteins:** Include lean meats, poultry, fish, eggs, legumes (beans and lentils), and tofu for growth and muscle development.
- c) **Dairy:** Provide whole milk, yogurt, and cheese for calcium and vitamin D. Limit fruit juices and sweetened beverages.
- d) **Grains:** Offer whole grains like whole wheat bread, brown rice, oats, and whole grain cereals for fiber and energy.
- e) **Fats:** Healthy fats from sources like avocados, nuts, seeds, and olive oil are important for brain development.

2) **Meal Structure:**

- a) Offer small, frequent meals and snacks to meet their energy needs.
- b) Encourage self-feeding with age-appropriate utensils and foods that are easy to grasp.

3) **Hydration:**

Offer water throughout the day. Limit sugary drinks and avoid caffeinated beverages.

4) **Food Safety:**

Cut food into small pieces to prevent choking hazards. Avoid foods that are hard, small, round, sticky, or can be easily inhaled.

◆ **Preschoolers (3-5 Years):**

1) **Nutrient-Rich Foods:**

- a) Continue to emphasize fruits, vegetables, lean proteins, dairy, and whole grains.
- b) Introduce a wider variety of foods to expand their palate and ensure balanced nutrition.





2) **Portion Sizes:**

Serve appropriate portion sizes based on their age and activity level to prevent overeating or undereating.

3) **Snacking:**

Offer healthy snacks such as fresh fruits, yogurt, cheese sticks, whole grain crackers, and vegetable sticks.

4) **Role Modeling:**

Be a positive role model by eating a variety of nutritious foods and involving them in meal preparation.

◆ **School-Going Children (6-12 Years):**

1) **Nutrient-Dense Meals:**

- a) Provide balanced meals that include fruits, vegetables, whole grains, lean proteins, and dairy products.
- b) Encourage breakfast to fuel their day and support concentration and learning.

2) **Meal Planning:**

Plan meals and snacks ahead of time to ensure they have access to nutritious options during busy school days.

3) **Healthy Choices:**

Teach them to make healthy food choices by discussing nutrition labels, portion sizes, and balanced meals.

4) **Hydration:**

Ensure they drink water throughout the day. Provide a reusable water bottle to school.

5) **Physical Activity:**

Encourage regular physical activity to support overall health and development.

6) **Limit Sugary and Processed Foods:**

Minimize intake of sugary snacks, fast food, and processed foods high in saturated fats and sugars.

⊙ **Additional Tips:**

- **Allergies and Preferences:** Respect any food allergies or preferences. Offer alternatives to ensure balanced nutrition.
- **Regular Meals:** Establish regular meal and snack times to maintain energy levels and prevent excessive hunger.
- **Parental Involvement:** Stay involved in their eating habits, communicate with school regarding meals, and provide nutritious options for packed lunches.

By prioritizing balanced nutrition and healthy eating habits from a young age, parents and caregivers can support the physical, cognitive, and emotional well-being of toddlers, preschoolers, and school-going children, setting a foundation for lifelong healthy habits.

◆ **Nutrition to Adult**

Nutrition during adolescence is critical for supporting growth, development, and overall health as teenagers undergo significant physical, cognitive, and emotional changes. Here's a detailed guide on nutrition for adolescents:





⊙ **Nutrient Needs:**

1) **Calories:**

Adolescents have increased energy needs due to growth spurts and physical activity. Caloric intake should be balanced with energy expenditure to support growth without excess weight gain.

2) **Protein:**

Essential for growth, muscle development, and repair. Good sources include lean meats, poultry, fish, eggs, dairy products, legumes, nuts, and seeds.

3) **Carbohydrates:**

Provide energy for physical activity and brain function. Choose whole grains (brown rice, whole wheat bread, oats), fruits, vegetables, and legumes over refined carbohydrates.

4) **Fats:**

Healthy fats are important for hormone production, brain development, and overall health. Include sources like avocados, nuts, seeds, olive oil, and fatty fish (salmon, trout).

5) **Vitamins and Minerals:**

Ensure adequate intake of vitamins A, C, D, E, and minerals like calcium, iron, and zinc. These nutrients support immune function, bone health, and overall well-being.

⊙ **Key Nutrition Tips:**

1) **Balanced Meals:**

Encourage balanced meals that include a variety of foods from all food groups: fruits, vegetables, lean proteins, whole grains, and healthy fats.

2) **Hydration:**

Drink plenty of water throughout the day to stay hydrated, especially during physical activity.

3) **Breakfast:**

Emphasize the importance of eating a nutritious breakfast to kickstart the day and support concentration and energy levels.

4) **Snacking:**

Choose healthy snacks like fruits, yogurt, nuts, whole grain crackers, or vegetables with hummus to satisfy hunger between meals.

5) **Limit Sugary and Processed Foods:**

Minimize intake of sugary snacks, sodas, fast food, and processed foods high in saturated fats and sugars.

6) **Iron-Rich Foods:**

Adolescent girls, in particular, need adequate iron to support blood production during menstrual cycles. Include iron-rich foods like lean red meat, poultry, fish, beans, lentils, and fortified cereals.

7) **Calcium and Vitamin D:**

Support bone health with calcium-rich foods such as dairy products, fortified plant-based milks, leafy greens, and fortified cereals. Vitamin D helps with calcium absorption and can be obtained from sunlight exposure and fortified foods.



⊙ **Special Considerations:**

- **Vegetarian or Vegan Diets:** Ensure adequate protein intake from plant-based sources like beans, lentils, tofu, nuts, and seeds. Consider supplements for nutrients like vitamin B12 and iron.
- **Eating Disorders:** Monitor for signs of disordered eating behaviors and seek professional help if concerned.
- **Sports Nutrition:** For adolescents involved in sports, ensure they consume enough calories, fluids, and nutrients to support their athletic performance and recovery.

⊙ **Healthy Eating Habits:**

- **Family Meals:** Encourage regular family meals to promote healthy eating habits and communication.
- **Education:** Teach adolescents about nutrition, reading food labels, and making informed food choices.
- **Moderation:** Emphasize moderation and balance rather than strict dietary restrictions.

By promoting balanced nutrition, hydration, and healthy eating habits, parents and caregivers can support adolescents in achieving optimal growth, development, and overall well-being during this crucial stage of life. Regular monitoring and communication with healthcare providers can also help ensure nutritional needs are met and address any concerns promptly.

❖ **Management of preterm and low birth weight children – their special needs.**

Managing preterm and low birth weight (LBW) children requires specialized care to support their growth, development, and overall health. These infants are born before completing 37 weeks of gestation and/or weigh less than 2500 grams (5.5 pounds) at birth. Here's a comprehensive guide on the management and special needs of preterm and LBW children:

⊙ **Initial Medical Care:**

1) **Neonatal Intensive Care Unit (NICU):**

Many preterm and LBW infants require initial care in the NICU for monitoring and medical interventions such as respiratory support, temperature regulation, and feeding assistance.

2) **Feeding Support:**

a) **Breast Milk:** Breast milk is the ideal nutrition for preterm and LBW infants due to its protective and nutritional benefits. Mothers are encouraged to express milk, and if necessary, fortifiers may be added to meet their increased nutrient needs.

b) **Formula Feeding:** Specialized preterm formulas may be used when breast milk is unavailable or insufficient.

3) **Monitoring and Developmental Assessment:**

Regular monitoring of growth, nutritional intake, and developmental milestones is essential to identify any delays or concerns early on.

⊙ **Nutritional Needs:**

1) **Caloric Intake:**

Preterm infants require higher caloric intake to support growth catch-up. Feeding schedules may include more frequent feedings or continuous feeds to ensure adequate nutrition.





2) **Protein and Nutrient Fortification:**

Special formulas or fortified breast milk may be necessary to provide additional protein, calories, vitamins, and minerals.

3) **Iron Supplementation:**

Iron supplementation may be required due to limited iron stores at birth and the rapid growth rate of preterm infants.

⊙ **Respiratory and Cardiovascular Support:**

1) **Respiratory Distress:**

Some preterm infants may require respiratory support, including oxygen therapy or mechanical ventilation, to assist with breathing.

2) **Heart Health:**

Monitoring for cardiovascular issues, such as patent ductus arteriosus (PDA), and providing appropriate treatment if necessary.

⊙ **Developmental Support:**

1) **Physical Therapy:**

Early intervention programs may include physical therapy to support muscle development and motor skills.

2) **Occupational Therapy:**

Addressing feeding difficulties and sensory integration issues that may arise.

3) **Speech Therapy:**

Addressing any challenges with oral motor skills or language development.

⊙ **Long-Term Follow-Up:**

1) **Neurodevelopmental Assessment:**

Regular assessments to monitor cognitive, motor, and behavioral development and intervene as needed.

2) **Specialist Care:**

Accessing pediatric specialists (neonatologists, developmental pediatricians, neurologists) to address specific medical and developmental needs.

⊙ **Family Support and Education:**

1) **Parental Education:**

Providing families with education on caring for preterm infants, recognizing signs of complications, and promoting developmental milestones.

2) **Support Services:**

Accessing support groups, counseling services, and resources to help families cope with the emotional and practical challenges of caring for a preterm or LBW infant.

⊙ **Conclusion:**

Managing preterm and low birth weight infants requires a multidisciplinary approach involving neonatal specialists, pediatricians, nurses, therapists, and supportive care services. Early intervention, specialized nutrition, developmental support, and ongoing monitoring are key to optimizing outcomes and supporting these infants as they grow and develop. Tailored care plans and close collaboration with healthcare providers are crucial for meeting the unique needs of each preterm and LBW child.





❖ Meal Management

❖ Principles of formulation of diet chart

Formulating a diet chart involves applying principles of nutrition to create a balanced and personalized eating plan tailored to an individual's specific needs, goals, and health considerations. Whether for infants, children, adults, or individuals with specific health conditions, several key principles guide the formulation of an effective diet chart:

1) **Assess Nutritional Needs:**

- **Age, Gender, and Life Stage:** Consider age-related nutrient requirements, biological sex differences, and life stage (e.g., pregnancy, lactation, adolescence).
- **Health Status:** Assess any existing health conditions, allergies, intolerances, or dietary restrictions that may impact nutrient absorption or metabolism.

2) **Balance Macronutrients:**

- **Carbohydrates:** Include complex carbohydrates (whole grains, fruits, vegetables) for sustained energy and fiber.
- **Proteins:** Incorporate lean proteins (poultry, fish, legumes, tofu) for tissue repair, muscle growth, and enzyme production.
- **Fats:** Choose healthy fats (avocados, nuts, olive oil) for energy, absorption of fat-soluble vitamins, and brain health.

3) **Prioritize Micronutrients:**

- Ensure adequate intake of essential vitamins (A, C, D, E, K, B-complex) and minerals (calcium, iron, magnesium, zinc) through a variety of nutrient-dense foods.
- Consider supplementation if dietary intake does not meet recommended levels, especially for vulnerable populations or specific health conditions.

4) **Include Fiber-Rich Foods:**

Promote gastrointestinal health and regular bowel movements with high-fiber foods like whole grains, fruits, vegetables, nuts, and seeds.

5) **Optimize Hydration:**

Encourage adequate fluid intake, primarily through water, to maintain hydration, support digestion, and regulate body temperature.

6) **Adapt to Cultural and Personal Preferences:**

Respect cultural dietary practices and personal food preferences to promote dietary adherence and enjoyment.

7) **Monitor Portion Sizes and Energy Balance:**

- Adjust portion sizes based on individual energy needs, physical activity levels, and goals (e.g., weight maintenance, weight loss, muscle gain).
- Avoid overconsumption of high-calorie, low-nutrient foods (e.g., sugary snacks, processed foods).

8) **Promote Variety and Moderation:**

- Emphasize a diverse range of foods to ensure a wide spectrum of nutrients and phytochemicals.
- Encourage moderation in the consumption of foods high in added sugars, saturated fats, and sodium.





9) Consider Meal Timing and Frequency:

Promote regular meal patterns that include breakfast and balanced snacks to maintain stable energy levels and prevent excessive hunger.

10) Monitor and Adjust:

Regularly review dietary intake, monitor changes in health status, and adjust the diet chart as needed to achieve optimal nutrition and health outcomes.

11) Seek Professional Guidance:

Consult registered dietitians, nutritionists, or healthcare providers for personalized guidance, especially for individuals with specific medical conditions or complex dietary needs.

By applying these principles of nutrition, a well-formulated diet chart can effectively support overall health, promote optimal growth and development, manage chronic conditions, and enhance quality of life through nutritionally balanced eating habits tailored to individual needs and preferences.

◆ **Balance diet:**

A balanced diet refers to a way of eating that provides all the essential nutrients required for overall health and well-being while maintaining energy balance. It involves consuming a variety of foods in appropriate proportions to achieve optimal nutrition. Here are the key components and principles of a balanced diet:

⊙ **Key Components of a Balanced Diet:**

1) **Macronutrients:**

- a) **Carbohydrates:** Found in grains, fruits, vegetables, and legumes, carbohydrates provide energy for daily activities. Whole grains like brown rice, oats, and whole wheat bread are preferable over refined grains.
- b) **Proteins:** Essential for growth, repair, and maintenance of tissues. Sources include lean meats, poultry, fish, eggs, dairy products, legumes (beans and lentils), tofu, nuts, and seeds.
- c) **Fats:** Healthy fats are crucial for brain health, hormone production, and absorbing fat-soluble vitamins (A, D, E, K). Sources include avocados, nuts, seeds, olive oil, and fatty fish like salmon and trout.

2) **Micronutrients:**

- a) **Vitamins:** Found in fruits, vegetables, whole grains, dairy, and meats. Vitamins such as A, C, D, E, and K play essential roles in various bodily functions and immune health.
- b) **Minerals:** Include calcium (found in dairy products and leafy greens), iron (found in meat, beans, and fortified cereals), magnesium, zinc, and potassium. These minerals support bone health, oxygen transport, and muscle function.

3) **Fiber:**

Found in whole grains, fruits, vegetables, nuts, seeds, and legumes, fiber aids digestion, promotes bowel health, and helps regulate blood sugar levels.

4) **Hydration:**

Water is essential for every bodily function, from digestion and nutrient transport to temperature regulation and waste removal. Aim for adequate water intake throughout the day.



⊙ Principles of a Balanced Diet:

◆ Variety:

Include a wide range of foods from all food groups to ensure intake of diverse nutrients. Eating a variety of colors (fruits and vegetables) often ensures a mix of vitamins, minerals, and antioxidants.

◆ Moderation:

Practice moderation in portion sizes and avoid overconsumption of high-calorie, low-nutrient foods such as sugary snacks, processed foods, and beverages high in added sugars.

◆ Balance:

Ensure a balance between different food groups and nutrients. For example, pair carbohydrates with proteins and fats to help stabilize blood sugar levels and satisfy hunger.

◆ Caloric Adequacy:

Adjust calorie intake based on individual needs, considering factors like age, gender, activity level, and health goals (e.g., weight maintenance, weight loss, muscle gain).

◆ Nutrient Density:

Choose nutrient-dense foods that provide substantial amounts of vitamins, minerals, and other nutrients relative to their calorie content. Examples include vegetables, fruits, lean proteins, and whole grains.

◆ Regular Meals and Snacks:

Maintain regular meal patterns with balanced meals and healthy snacks throughout the day to sustain energy levels and prevent excessive hunger.

⊙ Benefits of a Balanced Diet:

- Supports overall health and well-being.
- Helps maintain a healthy weight.
- Reduces the risk of chronic diseases such as heart disease, diabetes, and certain cancers.
- Enhances energy levels and mental clarity.

⊙ Conclusion:

A balanced diet is foundational for promoting optimal health and preventing nutrition-related diseases. By incorporating a variety of nutrient-rich foods, practicing moderation, and considering individual nutritional needs, individuals can achieve a balanced diet that supports long-term health and vitality. Consulting with a registered dietitian or nutritionist can provide personalized guidance for developing and maintaining a balanced diet suited to individual lifestyles and health goals.

◆ Diet chart and menu planning for adult women of different physical activity and economic status

Designing a diet chart and menu planning for adult women requires consideration of their physical activity levels, economic status, and nutritional needs. Here's a comprehensive guide tailored to different activity levels and economic backgrounds:

1) Sedentary Lifestyle (Low Physical Activity):

▪ Breakfast:

- Whole grain cereal with low-fat milk or yogurt, topped with fresh berries.
- Whole wheat toast with avocado or nut butter.



- Herbal tea or water.
 - **Morning Snack:**
 - Greek yogurt with a handful of nuts or seeds.
 - Fresh fruit such as an apple or banana.
 - **Lunch:**
 - Quinoa or brown rice salad with mixed vegetables (e.g., cucumber, tomato, bell peppers) and grilled chicken or tofu.
 - Water or herbal tea.
 - **Afternoon Snack:**
 - Hummus with carrot and cucumber sticks.
 - Whole grain crackers.
 - **Dinner:**
 - Baked salmon or tofu with steamed broccoli and quinoa.
 - Mixed green salad with olive oil and vinegar dressing.
 - Water or herbal tea.
 - **Evening Snack (optional):**
 - Low-fat cottage cheese with fruit.
 - Herbal tea.
- 2) **Moderate Physical Activity (Regular Exercise):**
- **Breakfast:**
 - Whole grain toast with avocado and poached eggs.
 - Fresh fruit smoothie with spinach, berries, and almond milk.
 - Herbal tea or water.
 - **Morning Snack:**
 - Greek yogurt with granola and fresh berries.
 - Handful of almonds or walnuts.
 - **Lunch:**
 - Grilled chicken or fish with sweet potato and steamed green beans.
 - Quinoa or brown rice pilaf.
 - Water or herbal tea.
 - **Afternoon Snack:**
 - Whole grain crackers with hummus.
 - Fresh fruit like oranges or grapes.
 - **Dinner:**
 - Stir-fried vegetables (bell peppers, broccoli, snap peas) with tofu or lean beef, served over brown rice.
 - Mixed green salad with olive oil and lemon dressing.
 - Water or herbal tea.
 - **Evening Snack (optional):**
 - Cottage cheese with sliced apple or pear.
 - Herbal tea or water.

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3) Active Lifestyle (High Physical Activity):

▪ Breakfast:

- Overnight oats with chia seeds, topped with nuts and mixed berries.
- Whole grain toast with almond butter.
- Freshly squeezed juice or herbal tea.

▪ Mid-Morning Snack:

- Protein smoothie with Greek yogurt, spinach, banana, and almond milk.
- Whole grain muffin or energy bar.

▪ Lunch:

- Grilled salmon or chicken breast with quinoa salad (mixed greens, cherry tomatoes, cucumber).
- Whole grain roll or bread.
- Water or herbal tea.

▪ Afternoon Snack:

- Whole grain crackers with avocado or guacamole.
- Fresh fruit like pineapple or mango.

▪ Dinner:

- Lean steak or grilled shrimp with roasted sweet potatoes and asparagus.
- Quinoa or whole wheat pasta with tomato and basil sauce.
- Mixed green salad with vinaigrette dressing.
- Water or herbal tea.

▪ Evening Snack (optional):

- Greek yogurt with honey and mixed nuts.
- Herbal tea or water.

⊙ Considerations for Different Economic Status:

• Budget-Friendly Options:

- Choose economical protein sources like beans, lentils, eggs, and canned tuna.
- Buy seasonal fruits and vegetables, which are often more affordable.
- Opt for store-brand or bulk purchases of staples like rice, oats, and whole grains.

• Affordable Meal Planning:

- Plan meals that use ingredients efficiently to minimize waste.
- Cook larger batches and freeze leftovers for future meals.
- Use spices and herbs for flavor instead of expensive sauces or seasonings.

• Balanced Nutrition on a Budget:

- Prioritize nutrient-dense foods like beans, lentils, frozen vegetables, and whole grains.
- Incorporate inexpensive sources of protein and healthy fats like eggs, canned fish, and nuts/seeds.
- Explore local food banks, community gardens, and farmer's markets for affordable fresh produce options.

By tailoring diet charts and menu plans to different physical activity levels and economic statuses, adult women can achieve balanced nutrition that supports their health, energy levels, and overall



well-being. Adjust portions and food choices based on individual preferences, dietary needs, and cultural considerations for sustainable healthy eating habits.

◆ **Diet chart and menu planning for infants, pre-school children and adolescents from different socio-economic status**

Designing diet charts and menu plans for infants, preschool children, and adolescents from different socio-economic statuses involves ensuring access to nutritious foods that meet their specific developmental and growth needs. Here's a guide tailored to each age group and socio-economic status:

◆ **Infants (0-12 Months):**

▪ **Breastfeeding:**

- Encourage exclusive breastfeeding for the first 6 months of life.
- Breast milk provides optimal nutrition and immune protection.

▪ **Formula Feeding:**

- Use commercially prepared infant formula if breastfeeding is not possible.
- Choose iron-fortified formula to support growth and development.

▪ **Introduction of Solid Foods (around 6 months):**

- Start with iron-rich foods like iron-fortified cereals, pureed meats, or legumes.
- Introduce a variety of fruits and vegetables in small amounts.

▪ **Sample Menu:**

- **Breakfast:** Breast milk or formula feeding.
- **Mid-Morning:** Iron-fortified cereal mixed with breast milk or formula.
- **Lunch:** Mashed fruits (e.g., banana, apple) or vegetables (e.g., sweet potato, peas).
- **Afternoon:** Breast milk or formula feeding.
- **Dinner:** Pureed meats (chicken, beef) or legumes (mashed beans).
- **Before Bed:** Breast milk or formula feeding.

▪ **Socio-Economic Considerations:**

- **Low Socio-Economic Status:** Access to government-supported programs like WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) for formula and food assistance.
- **Higher Socio-Economic Status:** Access to a variety of organic or specialty baby foods and formulas, as well as educational resources on breastfeeding and nutrition.

◆ **Preschool Children (3-5 Years):**

▪ **Breakfast:**

- Whole grain cereal with milk and sliced fruits.
- Scrambled eggs with whole grain toast and a glass of milk.

▪ **Morning Snack:**

- Greek yogurt with honey and a handful of whole grain crackers.

▪ **Lunch:**

- Grilled chicken or tofu with brown rice and steamed vegetables.
- Fresh fruit salad or applesauce.

▪ **Afternoon Snack:**

- Carrot and cucumber sticks with hummus or yogurt dip.



- **Dinner:**
 - Baked fish with quinoa and roasted vegetables.
 - Whole grain pasta with tomato sauce and lean ground turkey.
- **Evening Snack (optional):**
 - Low-fat cheese with whole grain crackers or a piece of fruit.
- **Socio-Economic Considerations:**
 - **Low Socio-Economic Status:** Utilize affordable protein sources like beans, lentils, and eggs. Access community programs or school meals for subsidized or free lunches.
 - **Higher Socio-Economic Status:** Ability to afford organic or specialty foods. Options for private preschools with nutrition-focused curricula.
- ◆ **Adolescents (12-18 Years):**
 - **Breakfast:**
 - Whole grain toast with avocado and scrambled eggs.
 - Smoothie with spinach, berries, yogurt, and chia seeds.
 - **Mid-Morning Snack:**
 - Greek yogurt with granola and fresh fruit.
 - **Lunch:**
 - Grilled chicken or chickpea salad with mixed greens, quinoa, and a variety of vegetables.
 - Whole grain roll or bread with hummus.
 - **Afternoon Snack:**
 - Whole grain crackers with cheese or nut butter.
 - Fresh fruit like apples or grapes.
 - **Dinner:**
 - Stir-fried vegetables (bell peppers, broccoli, snap peas) with lean beef or tofu over brown rice.
 - Mixed green salad with vinaigrette dressing.
 - **Evening Snack (optional):**
 - Cottage cheese with fruit or whole grain crackers.
 - **Socio-Economic Considerations:**
 - **Low Socio-Economic Status:** Emphasis on affordable protein sources like beans, lentils, and canned fish. Access to school meal programs for free or reduced-cost lunches.
 - **Higher Socio-Economic Status:** Ability to afford a variety of fresh produce, lean meats, and specialty health foods. Opportunities for extracurricular activities promoting physical activity.
- Ⓢ **General Tips for All Age Groups:**
 - **Nutrient Density:** Prioritize nutrient-dense foods such as fruits, vegetables, lean proteins, whole grains, and healthy fats.
 - **Hydration:** Encourage water as the primary beverage choice. Limit sugary drinks and sodas.
 - **Cultural Sensitivity:** Respect cultural preferences and traditions in food choices and meal preparation.
 - **Education:** Provide nutrition education and resources to empower families to make informed food choices within their socio-economic means.





By tailoring diet charts and menu plans to different socio-economic statuses, infants, preschool children, and adolescents can receive adequate nutrition to support their growth, development, and overall health, regardless of financial constraints. Access to affordable, nutritious foods and educational resources plays a crucial role in promoting healthy eating habits from an early age.

◆ **Diet chart and menu planning for pregnant, lactating and nursing mothers from different socio-economic group.**

Designing diet charts and menu plans for pregnant, lactating, and nursing mothers across different socio-economic groups involves ensuring they receive adequate nutrition to support their own health as well as the growth and development of their babies. Here's a comprehensive guide tailored to each group and socio-economic consideration:

1) Pregnant Women:

⊙ **First Trimester:**

- Focus on folate-rich foods like leafy greens, citrus fruits, and fortified cereals.
- Include sources of lean protein (chicken, beans, tofu) and whole grains.
- Stay hydrated with water and limit caffeine intake.

⊙ **Second and Third Trimesters:**

- Increase intake of iron-rich foods such as lean red meat, beans, and dried fruits to support blood volume expansion.
- Ensure adequate calcium from dairy products, fortified plant-based milks, or leafy greens for fetal bone development.
- Include omega-3 fatty acids from fatty fish (like salmon), flaxseeds, or walnuts for brain and eye development.

▪ **Sample Menu:**

- **Breakfast:** Whole grain cereal with milk and berries, whole wheat toast with avocado.
- **Mid-Morning Snack:** Greek yogurt with nuts and fruit.
- **Lunch:** Grilled chicken or lentil salad with mixed greens, quinoa, and veggies.
- **Afternoon Snack:** Hummus with carrot and cucumber sticks.
- **Dinner:** Baked salmon or tofu with sweet potato and steamed broccoli.
- **Evening Snack (if needed):** Whole grain crackers with cheese or a small bowl of cottage cheese.

▪ **Socio-Economic Considerations:**

- **Low Socio-Economic Status:** Access to government assistance programs like WIC for supplemental nutrition and prenatal vitamins.
- **Higher Socio-Economic Status:** Ability to afford a variety of fresh produce, lean meats, and organic options.

2) Lactating Mothers:

▪ **Postpartum Nutrition:**

- Continue prenatal vitamins and focus on nutrient-dense foods to support milk production.
- Consume adequate calories (around 500 extra per day) to meet energy needs for breastfeeding.
- Hydrate well with water and limit caffeine.

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- **Sample Menu:**
 - **Breakfast:** Whole grain pancakes with berries and yogurt, scrambled eggs.
 - **Mid-Morning Snack:** Smoothie with spinach, banana, almond milk, and protein powder.
 - **Lunch:** Quinoa salad with grilled chicken or chickpeas, mixed greens, and avocado.
 - **Afternoon Snack:** Whole grain crackers with cheese or nut butter.
 - **Dinner:** Stir-fried vegetables with lean beef or tofu over brown rice.
 - **Evening Snack:** Greek yogurt with honey and nuts.
 - **Socio-Economic Considerations:**
 - **Low Socio-Economic Status:** Utilize community resources for breastfeeding support and access to affordable, nutritious foods.
 - **Higher Socio-Economic Status:** Opportunities for lactation consultants, organic foods, and specialty dietary supplements.
- 3) **Nursing Mothers:**
- **Continued Nutrition Needs:**
 - Maintain a balanced diet similar to pregnancy and lactation to support both maternal and infant health.
 - Emphasize variety and moderation in food choices to ensure nutrient intake.
 - **Sample Menu:**
 - **Breakfast:** Whole grain toast with avocado and poached eggs, fruit salad.
 - **Mid-Morning Snack:** Apple slices with almond butter.
 - **Lunch:** Whole wheat wrap with grilled chicken, veggies, and hummus.
 - **Afternoon Snack:** Greek yogurt with granola and berries.
 - **Dinner:** Baked fish with quinoa and roasted vegetables.
 - **Evening Snack:** Cottage cheese with pineapple or whole grain crackers.
 - **Socio-Economic Considerations:**
 - **Low Socio-Economic Status:** Access to affordable protein sources like beans, lentils, and eggs. Utilize community support for breastfeeding.
 - **Higher Socio-Economic Status:** Ability to afford a variety of fresh produce, lean meats, and specialty health foods.
 - **General Tips for All Groups:**
 - **Hydration:** Drink plenty of water throughout the day.
 - **Meal Planning:** Plan ahead for balanced meals and snacks to support energy levels and nutrient needs.
 - **Cultural Sensitivity:** Respect cultural preferences and traditions in food choices.
 - **Healthcare Support:** Access prenatal and postnatal healthcare services for personalized nutrition advice and support.

By tailoring diet charts and menu plans to different socio-economic statuses, pregnant, lactating, and nursing mothers can ensure they receive adequate nutrition to support their own health and the health of their babies, regardless of financial constraints. Access to nutritious foods and support services plays a crucial role in promoting maternal and infant health during these critical periods.



❖ Basic Concepts of Diet Therapy

❖ Dietary counselling

Dietary counseling involves providing personalized guidance and education to individuals or groups on making informed food choices to promote health and well-being. Here are key aspects and considerations involved in effective dietary counseling:

1) **Assessment and Evaluation:**

- **Health History:** Gather information about the client's medical history, current health status, medications, allergies, and any existing medical conditions.
- **Dietary Habits:** Assess the client's typical dietary intake, eating patterns, preferences, and cultural considerations.
- **Lifestyle Factors:** Consider factors such as physical activity level, sleep patterns, stress levels, and work schedule.

2) **Goal Setting:**

- **SMART Goals:** Collaborate with the client to set Specific, Measurable, Achievable, Relevant, and Time-bound goals based on their health objectives (e.g., weight management, managing chronic conditions, improving energy levels).
- **Prioritization:** Help clients prioritize goals to focus on achievable changes that will have the most significant impact on their health.

3) **Nutritional Education:**

- **Balanced Nutrition:** Educate clients about the importance of a balanced diet that includes all food groups (fruits, vegetables, whole grains, lean proteins, healthy fats, dairy or alternatives).
- **Portion Control:** Teach portion sizes and mindful eating practices to avoid overeating and promote satiety.
- **Nutrient Density:** Emphasize choosing nutrient-dense foods that provide essential vitamins, minerals, and fiber without excess calories.

4) **Dietary Modifications:**

- **Individualization:** Tailor dietary recommendations to meet the client's specific nutritional needs, preferences, and lifestyle constraints.
- **Allergies and Intolerances:** Address food allergies, intolerances, or sensitivities by providing alternative food options and ensuring balanced nutrition.
- **Cultural Considerations:** Respect cultural food preferences and dietary practices while promoting healthy choices within cultural norms.

5) **Behavior Change Strategies:**

- **Behavioral Counseling:** Implement strategies such as goal-setting, self-monitoring, problem-solving, and motivational interviewing to support behavior change.
- **Mindful Eating:** Promote mindful eating practices to enhance awareness of hunger cues, emotions related to food, and enjoyment of meals.

6) **Monitoring and Support:**

- **Follow-Up:** Schedule regular follow-up sessions to monitor progress, review challenges, and adjust goals and strategies as needed.



- **Encouragement and Motivation:** Provide ongoing support, encouragement, and motivation to help clients stay committed to their dietary goals and make sustainable lifestyle changes.

7) Evidence-Based Practice:

- **Current Research:** Stay updated on the latest nutrition research and evidence-based guidelines to provide accurate and scientifically sound recommendations.
- **Collaboration:** Work collaboratively with other healthcare professionals, such as doctors, nurses, and registered dietitians, to ensure comprehensive care for clients with complex health needs.

8) Practical Tips and Resources:

- **Meal Planning:** Offer practical guidance on meal planning, grocery shopping, and food preparation to facilitate healthy eating habits.
- **Educational Materials:** Provide handouts, recipes, online resources, and nutrition apps to support clients in implementing dietary recommendations independently.

▪ Conclusion:

Effective dietary counseling involves a personalized approach that considers the client's health status, goals, preferences, and socio-cultural factors. By empowering individuals with knowledge, skills, and support, dietary counseling aims to promote long-term health through sustainable dietary habits and lifestyle changes. Collaborating closely with clients and utilizing evidence-based strategies ensures that dietary counseling is effective in improving nutritional outcomes and overall well-being.

◆ Assessment of patients' needs

Assessing patients' needs for diet therapy involves a systematic process to understand their medical conditions, dietary habits, lifestyle factors, and nutritional requirements. Here are key steps in assessing patients' needs for diet therapy:

1) Medical History Review:

- **Current Medical Conditions:** Identify specific medical diagnoses (e.g., diabetes, hypertension, gastrointestinal disorders) that may require dietary management.
- **Past Medical History:** Consider any previous surgeries, medical treatments, or significant health events that may impact dietary needs.
- **Medication Use:** Review medications and their potential interactions with food, as well as any side effects that may influence dietary choices.

2) Nutritional Assessment:

- **Dietary Intake:** Evaluate the patient's typical dietary intake, including meal patterns, portion sizes, frequency of meals/snacks, and nutrient sources.
- **Nutrient Deficiencies:** Assess for potential deficiencies based on dietary intake and medical conditions (e.g., iron deficiency in chronic blood loss).
- **Nutrient Excesses:** Identify any excessive intake of nutrients (e.g., sodium, saturated fats) that may contribute to health risks.

3) Anthropometric Measurements:

- **Body Weight:** Measure weight and assess trends over time. Determine if weight changes are intentional or unintentional.
- **Height:** Measure height to calculate Body Mass Index (BMI) if applicable.

- **Waist Circumference:** Assess abdominal fat distribution, which is a risk factor for metabolic conditions like diabetes and cardiovascular disease.

4) Clinical Assessment:

- **Physical Examination:** Conduct a physical assessment to evaluate signs of malnutrition, fluid retention, or other nutritional deficiencies (e.g., skin changes, muscle wasting).
- **Laboratory Tests:** Review relevant lab results (e.g., lipid profile, blood glucose levels, renal function tests) to assess nutritional status and metabolic health.

5) Lifestyle and Behavioral Factors:

- **Physical Activity:** Evaluate the patient's level of physical activity and exercise habits, which influence energy expenditure and nutrient requirements.
- **Sleep Patterns:** Consider sleep quality and duration, as inadequate sleep can affect appetite regulation and metabolism.
- **Stress and Mental Health:** Assess stress levels and mental health conditions that may impact eating behaviors and food choices.

6) Socio-Cultural and Economic Factors:

- **Cultural Preferences:** Respect cultural food practices, dietary restrictions, and preferences that influence dietary choices.
- **Socio-Economic Status:** Consider access to food resources, affordability of healthy foods, and availability of cooking facilities when planning diet therapy recommendations.

7) Patient Preferences and Readiness for Change:

- **Motivation:** Assess the patient's readiness to make dietary changes and their willingness to adhere to recommended diet therapy.
- **Educational Needs:** Identify gaps in knowledge regarding nutrition, meal planning, and food preparation that may hinder successful dietary modifications.

8) Collaborative Approach:

- **Interdisciplinary Collaboration:** Work collaboratively with healthcare team members (e.g., physicians, nurses, dietitians, psychologists) to develop a comprehensive plan that addresses the patient's medical and nutritional needs.
- **Patient-Centered Care:** Involve patients in decision-making, goal-setting, and developing personalized dietary plans that align with their preferences and lifestyle.

Conclusion:

Assessing patients' needs for diet therapy involves a holistic approach that considers medical conditions, nutritional status, lifestyle factors, socio-cultural influences, and patient preferences. By conducting a thorough assessment, healthcare providers can develop tailored diet therapy interventions that optimize health outcomes, promote adherence to dietary recommendations, and empower patients to make sustainable lifestyle changes. Regular monitoring and adjustment of the diet therapy plan ensure ongoing support and successful management of nutritional needs in clinical practice.

◆ Therapeutic diet chart preparation for Nutritional anaemia

Preparing a therapeutic diet chart for nutritional anemia involves focusing on foods rich in iron, vitamin B12, folate, and vitamin C, which aid in iron absorption. Here's a structured approach to creating such a diet chart:



1) Foods Rich in Iron:

- **Heme Iron Sources (Highly Bioavailable):**
 - Lean red meats (beef, lamb)
 - Organ meats (liver, kidney)
 - Poultry (chicken, turkey)
- **Non-Heme Iron Sources:**
 - Legumes (lentils, chickpeas, beans)
 - Tofu and soy products
 - Nuts and seeds (pumpkin seeds, sesame seeds)
 - Iron-fortified cereals and bread

2) Foods Rich in Vitamin B12:

- **Animal-Based Sources:**
 - Meat (beef, pork)
 - Poultry (chicken, turkey)
 - Fish (salmon, trout)
 - Dairy products (milk, yogurt, cheese)
 - Eggs
- **Plant-Based Sources (for vegetarians and vegans):**
 - Fortified foods (plant-based milk, breakfast cereals)
 - Nutritional yeast (fortified)
 - Seaweed (nori, spirulina) - for vegans

3) Foods Rich in Folate (Vitamin B9):

- **Leafy Greens:**
 - Spinach
 - Kale
 - Collard greens
- **Legumes:**
 - Lentils
 - Chickpeas
 - Black-eyed peas
- **Fortified Grains:**
 - Whole grain breads and cereals
 - Brown rice
- **Citrus Fruits:**
 - Oranges
 - Grapefruits
 - Lemons

4) Foods Rich in Vitamin C:

- **Citrus Fruits:**
 - Oranges
 - Grapefruits



- Lemons
- **Other Fruits:**
 - Strawberries
 - Kiwi
 - Papaya

- **Vegetables:**
 - Bell peppers
 - Broccoli
 - Brussels sprouts

◆ **Therapeutic diet chart example for nutritional anemia:**

- **Breakfast:**
 - Iron-fortified cereal with milk (or fortified plant-based milk) and sliced strawberries.
 - Whole grain toast with avocado and a poached egg.
- **Mid-Morning Snack:**
 - Greek yogurt with mixed nuts and seeds (pumpkin seeds, almonds).
- **Lunch:**
 - Grilled chicken breast salad with spinach, chickpeas, cherry tomatoes, and a drizzle of lemon juice (for vitamin C).
- **Afternoon Snack:**
 - Hummus with carrot and cucumber sticks.
- **Dinner:**
 - Lentil soup with spinach and whole grain bread.
 - Baked salmon with quinoa and steamed broccoli.
- **Evening Snack (optional):**
 - Fortified cereal bar or a small bowl of fortified cereal with milk.
- **Additional Tips:**
 - **Cooking Methods:** Use methods that preserve nutrient content, such as steaming or lightly sautéing vegetables.
 - **Iron Absorption:** Include vitamin C-rich foods in meals to enhance iron absorption from plant-based sources.
 - **Avoiding Inhibitors:** Limit consumption of tea, coffee, and calcium-rich foods during meals, as they can inhibit iron absorption.
 - **Hydration:** Drink plenty of water throughout the day to support overall health and digestion.
- **Considerations:**
 - **Individualization:** Tailor the diet chart based on the patient's preferences, cultural background, and dietary restrictions.
 - **Monitoring:** Regularly monitor the patient's response to the diet therapy, including hematologic markers (e.g., hemoglobin levels), to assess effectiveness.
- **Consultation:** If necessary, collaborate with a registered dietitian to ensure the diet plan meets the patient's nutritional needs and health goals.

By emphasizing nutrient-dense foods rich in iron, vitamin B12, folate, and vitamin C, this therapeutic diet chart aims to effectively manage nutritional anemia by addressing deficiencies and supporting overall health and well-being.

◆ **Therapeutic diet chart preparation for Malnutrition**

Creating a therapeutic diet chart for malnutrition involves focusing on providing adequate calories, protein, vitamins, and minerals to promote weight gain, improve nutritional status, and support overall health. Here's a structured approach to preparing such a diet chart:

1) **Assessing Nutritional Needs:**

- **Caloric Requirements:** Determine energy needs based on the patient's age, weight, height, and activity level.
- **Protein Needs:** Calculate protein requirements to support growth, repair tissues, and maintain muscle mass.
- **Micronutrient Requirements:** Assess for deficiencies in vitamins (e.g., vitamin A, vitamin D) and minerals (e.g., iron, zinc) commonly associated with malnutrition.

2) **Components of a Therapeutic Diet Chart:**

- **Breakfast:**
 - Oatmeal cooked with whole milk or fortified plant-based milk, topped with nuts and dried fruits.
 - Scrambled eggs with whole grain toast and a glass of fruit juice.
- **Mid-Morning Snack:**
 - Greek yogurt with honey and mixed berries.
 - Whole grain crackers with cheese.
- **Lunch:**
 - Grilled chicken or fish with quinoa or brown rice, steamed vegetables, and a side salad with vinaigrette dressing.
 - Fruit salad with yogurt.
- **Afternoon Snack:**
 - Hummus with carrot and cucumber sticks.
 - Fresh fruit like apple or banana.
- **Dinner:**
 - Lentil soup with whole grain bread.
 - Baked sweet potato with cottage cheese and steamed broccoli.
- **Evening Snack (optional):**
 - Smoothie made with banana, spinach, almond milk, and protein powder.

3) **Additional Tips:**

- **Frequent Meals:** Offer small, frequent meals and snacks throughout the day to increase calorie intake.
- **Energy-Dense Foods:** Incorporate foods high in calories and nutrients, such as nuts, seeds, avocados, and nut butters.
- **Protein-Rich Foods:** Include lean meats, poultry, fish, eggs, dairy products, legumes, and tofu to meet protein needs.

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- **Vitamins and Minerals:** Emphasize fruits, vegetables, whole grains, and fortified foods to provide essential vitamins and minerals.

4) Considerations:

- **Individualization:** Tailor the diet chart based on the patient's food preferences, cultural background, and dietary restrictions.
- **Hydration:** Ensure an adequate intake of fluids, such as water and herbal teas, to support hydration and overall health.
- **Supplementation:** Consider nutritional supplements if the patient has difficulty meeting nutrient requirements through diet alone.
- **Monitoring:** Regularly monitor the patient's weight, nutritional status (e.g., albumin levels), and overall progress to assess the effectiveness of the therapeutic diet.

5) Collaboration:

- **Healthcare Team:** Work collaboratively with a registered dietitian, healthcare providers, and other members of the healthcare team to develop and implement a comprehensive nutrition plan.
- **Education:** Provide nutrition education to the patient and caregivers to promote understanding and adherence to the therapeutic diet.

By focusing on nutrient-dense foods, adequate calories, and balanced meals throughout the day, this therapeutic diet chart aims to address malnutrition by promoting healthy weight gain, improving nutritional status, and supporting overall recovery and well-being.

◆ Therapeutic diet chart preparation for Hypertension

Preparing a therapeutic diet chart for hypertension (high blood pressure) involves focusing on reducing sodium intake, promoting potassium-rich foods, increasing fiber, and emphasizing heart-healthy fats. Here's a structured approach to creating such a diet chart:

1) General Guidelines for Hypertension:

- **Sodium Restriction:** Limit sodium intake to less than 2,300 mg per day (about 1 teaspoon of salt).
- **Potassium-Rich Foods:** Increase intake of potassium to counteract the effects of sodium on blood pressure.
- **Heart-Healthy Fats:** Choose unsaturated fats (monounsaturated and polyunsaturated) over saturated and trans fats.
- **Fiber-Rich Foods:** Promote consumption of whole grains, fruits, vegetables, and legumes for their fiber content.

2) Components of a Therapeutic Diet Chart:

- **Breakfast:**
 - Overnight oats made with almond milk, topped with berries and chia seeds.
 - Whole grain toast with avocado and a poached egg.
- **Mid-Morning Snack:**
 - Greek yogurt with sliced bananas and a sprinkle of nuts.
 - Apple slices with almond butter.



▪ **Lunch:**

- Grilled chicken or tofu salad with mixed greens, cherry tomatoes, cucumbers, and a homemade vinaigrette dressing.
- Quinoa and vegetable stir-fry with edamame beans.

▪ **Afternoon Snack:**

- Hummus with raw carrot and celery sticks.
- Whole grain crackers with low-fat cheese.

▪ **Dinner:**

- Baked salmon with quinoa or brown rice, steamed broccoli, and sautéed spinach.
- Lentil and vegetable soup with whole grain bread.

▪ **Evening Snack (optional):**

- Mixed berries with a dollop of Greek yogurt.

3) **Additional Tips:**

- **Portion Control:** Monitor portion sizes to maintain a healthy weight and support blood pressure management.
- **Limit Alcohol:** If consuming alcohol, do so in moderation (no more than one drink per day for women and two for men).
- **Read Labels:** Avoid processed and packaged foods high in sodium. Choose low-sodium or no-salt-added options.
- **Hydration:** Drink plenty of water throughout the day to stay hydrated.

4) **Considerations:**

- **Individualization:** Tailor the diet chart based on the patient's preferences, cultural background, and dietary restrictions.
- **Blood Pressure Monitoring:** Regularly monitor blood pressure and adjust diet as needed to achieve optimal control.
- **Collaboration:** Work closely with a registered dietitian or healthcare provider to develop and implement the therapeutic diet plan.

5) **Lifestyle Modifications:**

- **Physical Activity:** Encourage regular exercise to complement dietary changes and promote overall cardiovascular health.
- **Stress Management:** Implement stress-reduction techniques such as meditation, yoga, or deep breathing exercises.

▪ **Conclusion:**

By emphasizing nutrient-dense, low-sodium foods and promoting a balanced intake of potassium, fiber, and heart-healthy fats, this therapeutic diet chart aims to help manage hypertension effectively. Consistent adherence to dietary guidelines, combined with lifestyle modifications and regular monitoring, can support blood pressure control and overall cardiovascular health.

◆ **Therapeutic diet chart preparation for Obesity**

Creating a therapeutic diet chart for obesity involves promoting calorie reduction, emphasizing nutrient-dense foods, encouraging portion control, and supporting sustainable weight loss. Here's a structured approach to preparing such a diet chart:



1) General Guidelines for Obesity Management:

- **Caloric Restriction:** Create a calorie deficit to promote weight loss, typically aiming for 500-1000 kcal/day deficit depending on individual needs and goals.
- **Balanced Nutrition:** Ensure adequate intake of essential nutrients (vitamins, minerals, protein, fiber) while reducing overall caloric intake.
- **Portion Control:** Monitor portion sizes to avoid overeating and promote mindful eating habits.
- **Hydration:** Drink plenty of water throughout the day to support hydration and satiety.

2) Components of a Therapeutic Diet Chart:

- **Breakfast:**
 - Whole grain cereal with skim milk or fortified plant-based milk, topped with fresh berries.
 - Whole wheat toast with avocado and a boiled egg.
- **Mid-Morning Snack:**
 - Greek yogurt with mixed nuts and seeds (portion-controlled).
 - Fresh fruit like apple or pear.
- **Lunch:**
 - Grilled chicken or tofu salad with mixed greens, cherry tomatoes, cucumbers, and a light vinaigrette dressing.
 - Quinoa or brown rice bowl with lean protein (chicken, fish, or beans) and steamed vegetables.
- **Afternoon Snack:**
 - Hummus with raw carrot and celery sticks.
 - Air-popped popcorn (lightly seasoned).
- **Dinner:**
 - Baked or grilled salmon with quinoa or sweet potato and roasted vegetables.
 - Stir-fried vegetables with tofu or lean beef/chicken in a light soy sauce.
- **Evening Snack (optional):**
 - Low-fat cottage cheese with sliced strawberries.
 - Whole grain crackers with low-fat cheese.

3) Additional Tips:

- **Avoid Sugary Beverages:** Limit or avoid sugary drinks and opt for water, herbal teas, or infused water.
- **Limit Processed Foods:** Minimize intake of processed and fast foods high in added sugars, unhealthy fats, and sodium.
- **Regular Meals:** Eat regular meals and snacks to maintain energy levels and prevent overeating.
- **Physical Activity:** Incorporate regular physical activity as part of a healthy lifestyle to support weight loss and overall well-being.

4) Considerations:

- **Individualization:** Tailor the diet chart based on the patient's preferences, cultural background, and dietary restrictions.



- **Behavioral Support:** Provide guidance on behavioral changes, such as meal planning, mindful eating, and stress management, to support long-term weight management.
- **Monitoring:** Regularly monitor weight, body measurements, and progress towards weight loss goals. Adjust the diet plan as needed based on results and feedback.

5) Lifestyle Modifications:

- **Sleep:** Ensure adequate sleep (7-9 hours per night) to support weight loss and overall health.
- **Stress Management:** Implement stress-reduction techniques to avoid emotional eating and promote healthy coping mechanisms.

▪ **Conclusion:**

By focusing on nutrient-dense, low-calorie foods and promoting portion control and healthy eating habits, this therapeutic diet chart aims to facilitate sustainable weight loss for individuals with obesity. Collaborating with a registered dietitian or healthcare provider can further personalize the plan to meet individual needs and optimize success in achieving and maintaining a healthy weight.

◆ **Therapeutic diet chart preparation for Diabetes**

Preparing a therapeutic diet chart for diabetes involves managing blood glucose levels through balanced nutrition, portion control, and choosing foods that promote stable insulin response. Here's a structured approach to preparing such a diet chart.

1) **General Guidelines for Diabetes Management:**

- **Carbohydrate Management:** Monitor carbohydrate intake to maintain consistent blood sugar levels throughout the day.
- **Fiber-Rich Foods:** Include high-fiber foods to promote satiety and help control blood sugar.
- **Healthy Fats:** Emphasize unsaturated fats (monounsaturated and polyunsaturated) over saturated and trans fats.
- **Portion Control:** Manage portion sizes to prevent overeating and support weight management.
- **Regular Meals:** Eat meals and snacks at consistent times to help regulate blood glucose levels.

2) **Components of a Therapeutic Diet Chart:**

▪ **Breakfast:**

- Rolled oats with almond milk, topped with berries and a sprinkle of cinnamon.
- Whole grain toast with avocado and a boiled egg.

▪ **Mid-Morning Snack:**

- Greek yogurt with nuts and seeds (portion-controlled).
- Apple slices with almond butter.

▪ **Lunch:**

- Grilled chicken or tofu salad with mixed greens, cherry tomatoes, cucumbers, and a light vinaigrette dressing.
- Quinoa or brown rice bowl with lean protein (chicken, fish, or beans) and steamed vegetables.

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▪ **Afternoon Snack:**

- Hummus with raw carrot and celery sticks.
- Sugar-free yogurt with a handful of almonds.

▪ **Dinner:**

- Baked or grilled salmon with quinoa or sweet potato and steamed broccoli.
- Stir-fried vegetables with tofu or lean beef/chicken in a light soy sauce.

▪ **Evening Snack (optional):**

- Low-fat cottage cheese with sliced strawberries.
- Whole grain crackers with low-fat cheese.

3) **Additional Tips:**

- **Sugar Substitutes:** Use sugar substitutes in moderation if needed (e.g., stevia, erythritol).
- **Limit Processed Foods:** Minimize intake of processed and refined foods high in added sugars and unhealthy fats.
- **Hydration:** Drink plenty of water throughout the day to stay hydrated and support overall health.

4) **Considerations:**

- **Individualization:** Tailor the diet chart based on the patient's preferences, cultural background, and dietary restrictions.
- **Carbohydrate Counting:** Educate on carbohydrate counting and its impact on blood glucose levels.
- **Monitoring:** Regularly monitor blood glucose levels and adjust the diet plan as needed based on results and feedback.
- **Collaboration:** Work closely with a registered dietitian or healthcare provider to develop and implement the therapeutic diet plan.

5) **Lifestyle Modifications:**

- **Physical Activity:** Incorporate regular physical activity as part of a healthy lifestyle to improve insulin sensitivity and manage weight.
- **Stress Management:** Implement stress-reduction techniques to avoid emotional eating and promote healthy coping mechanisms.
- **Medication Adherence:** Encourage adherence to prescribed medications and insulin therapy as directed by healthcare providers.

▪ **Conclusion:**

By focusing on nutrient-dense, low-glycemic index foods and promoting portion control and healthy eating habits, this therapeutic diet chart aims to help individuals with diabetes manage blood glucose levels effectively. Continuous education, monitoring, and support are essential for successful diabetes management and overall health improvement. Working collaboratively with healthcare providers ensures that the diet plan meets individual needs and contributes to long-term well-being.

❖ **Food additives & Food Safety**

◆ **Food additives**

- **Definition:** Food additives are substances added to food during processing or production to enhance its flavor, appearance, texture, or shelf life. These substances may include



preservatives to prevent spoilage, antioxidants to prevent fats and oils from going rancid, stabilizers to maintain texture, emulsifiers to ensure uniformity, and colorants to improve visual appeal. Food additives undergo rigorous safety evaluations before approval for use, ensuring they do not pose health risks when consumed within recommended limits.

- **Need of Food additives**

Food additives serve several important purposes in the food industry:

- 1) **Preservation:** Many additives, such as preservatives and antioxidants, help extend the shelf life of foods by inhibiting microbial growth and preventing oxidation. This ensures that food remains safe and fresh for longer periods.
- 2) **Enhanced Flavor:** Flavor enhancers, like sweeteners and flavoring agents, improve the taste of processed foods, making them more appealing to consumers.
- 3) **Texture and Appearance:** Additives such as stabilizers, thickeners, and emulsifiers help maintain or improve the texture and consistency of foods, ensuring they have a pleasant mouthfeel and appearance.
- 4) **Nutritional Value:** Some additives are used to fortify foods with essential nutrients, such as vitamins and minerals, helping to address deficiencies in diets.
- 5) **Convenience:** Additives can make food preparation more convenient by facilitating manufacturing processes, such as making products easier to mix, dissolve, or package.
- 6) **Safety and Quality:** Additives contribute to food safety by reducing the risk of contamination and ensuring consistent product quality across batches.

Overall, while there are concerns about certain additives, their careful use is crucial for modern food production to meet consumer demands for safety, convenience, and sensory appeal. Regulatory bodies worldwide closely monitor the use of food additives to ensure they are safe for consumption at specified levels.

- **Importance and safety evaluation of Food additives.**

The importance of food additives lies in their ability to enhance food quality, safety, and consumer appeal. Here are key aspects of their importance and the safety evaluation process:

- **Importance of Food Additives:**

- 1) **Preservation:** Additives like preservatives and antioxidants help extend the shelf life of foods, reducing food waste and ensuring availability over longer periods.
- 2) **Enhanced Flavor and Appearance:** Flavor enhancers, colorants, and texture modifiers improve sensory attributes, making foods more palatable and appealing to consumers.
- 3) **Nutritional Enhancement:** Additives can enrich foods with essential nutrients, addressing nutritional deficiencies in diets.
- 4) **Convenience:** They facilitate food processing and preparation, making products easier to handle, store, and consume.
- 5) **Safety and Quality:** Additives contribute to food safety by preventing microbial growth, maintaining consistency, and ensuring product stability.

- **Safety Evaluation of Food Additives:**

The safety of food additives is rigorously evaluated before approval for use in foods. Here's how it's typically done:



- 1) **Regulatory Oversight:** Regulatory agencies (such as the FDA in the United States, EFSA in Europe, and others globally) oversee the evaluation and approval process of food additives.
- 2) **Risk Assessment:** Experts evaluate the potential risks associated with each additive, considering factors such as toxicity, allergenicity, and potential health effects.
- 3) **Exposure Assessment:** Assessments determine the likely exposure levels of consumers to the additive through food consumption.
- 4) **Risk Management:** Based on risk assessments, regulatory bodies establish acceptable daily intake (ADI) levels and maximum limits for additives in foods.
- 5) **Post-market Monitoring:** Continuous monitoring ensures that additives remain safe under conditions of intended use and that any emerging safety concerns are addressed promptly.
- 6) **Transparency:** Safety evaluations are often published and subject to public consultation, ensuring transparency and accountability in the approval process.

- **Conclusion:**

Food additives play a vital role in modern food production by enhancing safety, quality, and consumer satisfaction. Their safety is ensured through thorough evaluation processes conducted by regulatory agencies worldwide, aiming to protect public health while allowing for innovation and improvement in the food industry.

- **Regulation of food additives**

The regulation of food additives is crucial to ensure their safety and proper use in food products. Regulations vary by country or region, but they generally involve several key aspects:

- **Key Aspects of Regulation of Food Additives:**

- 1) **Approval Process:**

- a) **Safety Evaluation:** Before a food additive can be used, it undergoes rigorous safety evaluations by regulatory agencies. This includes assessing potential risks such as toxicity, allergenicity, and carcinogenicity.
- b) **Usage Levels:** Maximum limits (e.g., acceptable daily intake, ADI) are established for each additive based on safety assessments to ensure that exposure levels are within safe limits.

- 2) **Regulatory Bodies:**

- a) **FDA (Food and Drug Administration, USA):** In the United States, the FDA regulates food additives under the Food Additives Amendment to the Federal Food, Drug, and Cosmetic Act.
- b) **EFSA (European Food Safety Authority):** In the European Union, EFSA evaluates and approves food additives based on scientific assessments of safety and risk.
- c) **Codex Alimentarius Commission:** Internationally, the Codex Alimentarius Commission establishes food standards, guidelines, and codes of practice, including those related to food additives.

- 3) **Types of Food Additives:**

Different categories of additives (e.g., preservatives, antioxidants, flavor enhancers, colorants) may have specific regulations governing their use and maximum permitted levels.



4) Labeling Requirements:

Food manufacturers are typically required to list additives on food labels, allowing consumers to make informed choices and be aware of potential allergens or ingredients of concern.

5) Monitoring and Compliance:

Regulatory agencies monitor compliance with regulations through inspections, sampling, and testing of food products to ensure that additives are used appropriately and safely.

6) Emerging Issues:

Regulations are continuously updated to address emerging scientific findings, new technologies, and changes in food production practices.

▪ Conclusion:

The regulation of food additives is designed to protect public health by ensuring that additives used in foods are safe and do not pose undue risks to consumers. It involves thorough scientific evaluation, clear guidelines for use, and ongoing monitoring to maintain safety standards in the food supply chain. Regulatory bodies play a crucial role in overseeing these processes and ensuring that additives contribute positively to food safety, quality, and consumer choice.

◆ Food Safety

◆ Concept and meaning of food quality and food safety

◆ Food Quality:

Food quality refers to the characteristics of a food product that make it desirable and satisfactory to consumers. It encompasses various attributes that contribute to its overall appeal, nutritional value, and sensory properties. Key aspects of food quality include:

- 1) **Nutritional Value:** The nutritional content of food, including essential nutrients such as vitamins, minerals, proteins, fats, and carbohydrates, contributes to its quality. Foods that are rich in nutrients are generally considered higher in quality.
- 2) **Sensory Attributes:** The sensory properties of food, including taste, aroma, texture, appearance, and mouthfeel, play a significant role in determining its quality. Consumers often judge food quality based on these sensory experiences.
- 3) **Safety:** While food safety is a distinct concept (discussed below), it is closely related to quality. Safe food is a prerequisite for good quality, as consumers expect food to be free from harmful contaminants or pathogens.
- 4) **Shelf Life and Stability:** Quality foods maintain their characteristics over time and under different storage conditions. Stability in terms of texture, flavor, and appearance contributes to perceived quality.
- 5) **Authenticity and Origin:** Consumers value foods that are authentic in terms of their origin, production methods, and ingredients. Products with verified authenticity often command higher quality perceptions.
- 6) **Ethical Considerations:** Increasingly, factors such as sustainability, ethical sourcing, and fair trade practices contribute to perceptions of food quality among consumers.

⊙ Food Safety:



Food safety refers to the conditions and practices that preserve the quality of food by preventing contamination and foodborne illnesses. It focuses on ensuring that food is safe for consumption at all stages of production, processing, storage, and distribution. Key aspects of food safety include:

- 1) **Microbiological Safety:** Preventing the presence of harmful microorganisms (such as bacteria, viruses, parasites, and fungi) that can cause foodborne illnesses.
- 2) **Chemical Safety:** Ensuring that foods do not contain harmful chemical contaminants, such as pesticides, heavy metals, additives, or naturally occurring toxins.
- 3) **Physical Safety:** Preventing physical hazards in food, such as foreign objects (e.g., glass, metal fragments) that can cause injury or contamination.
- 4) **Handling and Storage Practices:** Proper handling, storage, and transportation practices are essential to maintaining food safety and preventing contamination.
- 5) **Regulatory Standards:** Compliance with food safety regulations and standards set by government agencies (e.g., FDA, EFSA) ensures that food producers follow established guidelines to protect public health.
- 6) **Monitoring and Traceability:** Regular monitoring, testing, and traceability systems help identify and address potential safety issues in the food supply chain.

In summary, while food quality focuses on desirable characteristics that enhance consumer satisfaction, food safety ensures that these characteristics are maintained without compromising public health. Both concepts are integral to ensuring that the food we consume is nutritious, enjoyable, and free from harm.

◆ **Food adulteration**

Food adulteration refers to the intentional addition of inferior, harmful, or undeclared substances to food products. This practice is typically carried out for economic gain, to increase the quantity or improve the appearance of a food product, or to deceive consumers. Food adulteration can compromise both food safety and quality, posing serious health risks to consumers. Here are some key aspects of food adulteration:

⊙ **Types of Food Adulteration:**

- 1) **Substitution:** Inferior or cheaper substances are added to replace or dilute the genuine food ingredient. For example, adding water to milk to increase volume.
- 2) **Excessive Use of Coloring Agents:** Artificial colors are added to enhance the appearance of fruits, vegetables, or other food products.
- 3) **Chemical Contaminants:** Addition of harmful chemicals, such as pesticides, fertilizers, or industrial dyes, which can be toxic when consumed.
- 4) **Misbranding:** Providing misleading information or false labeling about the quality or origin of a food product.
- 5) **Microbiological Contamination:** Addition of pathogenic microorganisms due to poor hygiene practices during food handling and processing.
- 6) **Nutritional Adulteration:** Removal or reduction of essential nutrients during processing, which diminishes the nutritional quality of the food.

⊙ **Impacts and Risks:**

- 1) **Health Risks:** Consumption of adulterated foods can lead to acute or chronic health problems, ranging from digestive disorders to more serious illnesses caused by toxic substances.



- 2) **Economic Fraud:** Adulteration can deceive consumers and lead to unfair economic practices within the food industry.
- 3) **Loss of Consumer Trust:** Adulteration undermines consumer confidence in food safety and quality standards.
- 4) **Regulatory Concerns:** Governments and regulatory bodies enforce strict laws and regulations to prevent and punish food adulteration practices.

⊙ **Detection and Prevention:**

- 1) **Testing and Analysis:** Regular testing and analysis of food products help detect adulterants and ensure compliance with food safety standards.
- 2) **Regulatory Oversight:** Stringent regulations and monitoring by government agencies ensure that food producers adhere to safety and quality standards.
- 3) **Consumer Awareness:** Educating consumers about the risks of food adulteration and encouraging them to buy from trusted sources can help mitigate the problem.
- 4) **Supply Chain Control:** Implementing strict quality control measures throughout the food supply chain, from production to distribution, helps prevent adulteration.

In conclusion, food adulteration is a serious issue that compromises both food safety and quality, necessitating strong regulatory measures and consumer vigilance to ensure the integrity of the food supply.

◆ **Food hazards**

Food hazards refer to biological, chemical, or physical agents present in food that have the potential to cause harm to consumers. These hazards can lead to foodborne illnesses or injuries if not properly controlled. Understanding and managing these hazards are critical to ensuring food safety. Here are the main types of food hazards:

1) **Biological Hazards:**

Biological hazards are microorganisms that can cause foodborne illnesses. They include:

- **Bacteria:** Examples include Salmonella, Escherichia coli (E. coli), Listeria monocytogenes, and Campylobacter. These bacteria can contaminate food through improper handling, cross-contamination, or inadequate cooking.
- **Viruses:** Norovirus and Hepatitis A are common viruses that can cause foodborne illness, often transmitted through contaminated water or food handled by infected individuals.
- **Parasites:** Parasites such as Cryptosporidium and Toxoplasma gondii can contaminate food, especially undercooked meat, seafood, or contaminated water.

2) **Chemical Hazards:**

Chemical hazards refer to substances that can contaminate food and pose health risks when consumed. Examples include:

- **Pesticides and Herbicides:** Residues from agricultural chemicals used to protect crops can remain on food if not properly washed or managed.
- **Food Additives:** Certain additives, if used improperly or in excess, can pose health risks. Examples include artificial colors, preservatives, and flavor enhancers.
- **Industrial Chemicals:** Contamination from industrial processes, such as heavy metals (e.g., lead, mercury) or cleaning agents, can occur during food processing or packaging.



3) Physical Hazards:

Physical hazards are foreign objects that can accidentally get into food products and cause harm. They include:

- **Metal, Glass, or Plastic:** Fragments from equipment or packaging materials can accidentally contaminate food during processing or handling.
- **Wood, Stones, or Bones:** Natural contaminants that can be found in raw materials or food ingredients if not properly removed during preparation.
- **Personal Effects:** Hair, jewelry, or other personal items can inadvertently contaminate food during preparation or handling.

Management and Control of Food Hazards:

- **HACCP (Hazard Analysis and Critical Control Points):** A systematic preventive approach to food safety that identifies, evaluates, and controls hazards throughout the food production process.
- **Good Hygienic Practices:** Strict adherence to hygiene practices, such as handwashing, sanitizing surfaces, and wearing protective clothing, helps prevent contamination.
- **Monitoring and Testing:** Regular monitoring and testing of food products and environments to detect and eliminate hazards before they reach consumers.
- **Education and Training:** Training food handlers on proper food safety practices and awareness of potential hazards is essential in preventing foodborne illnesses.
- **Regulatory Compliance:** Governments enforce regulations and standards to ensure food safety and manage risks associated with biological, chemical, and physical hazards.

In conclusion, understanding and effectively managing food hazards are essential to safeguarding public health and ensuring the safety and quality of the food supply chain. Diligent practices and adherence to regulatory standards help prevent foodborne illnesses and maintain consumer trust in the food industry.

Practical

Food Adulteration

Detection of adulterants in foods

Detecting adulterants in foods is crucial for ensuring food safety and quality. There are several methods and techniques used for detecting different types of adulterants. Here are some common approaches:

1) Physical Inspection:

- a) **Visual Inspection:** Food products can be visually inspected for physical contaminants such as stones, glass, metal fragments, or other foreign materials.
- b) **Microscopic Examination:** Microscopic analysis can reveal adulterants like starch in milk, sawdust in spices, or foreign particles in flour.

2) Chemical Analysis:

- a) **Chromatography (GC, HPLC):** Gas chromatography (GC) and high-performance liquid chromatography (HPLC) are used to separate and identify chemical components in complex mixtures. Examples include:
- b) **Detection of Pesticide Residues:** GC or HPLC can detect residues of pesticides in fruits, vegetables, and grains.



- c) **Identification of Artificial Colors:** HPLC can identify synthetic dyes and colors added to spices, beverages, or confectionery products.
- d) **Spectroscopy (IR, NMR, MS):** Spectroscopic techniques analyze molecular structures. Examples include:
 - i. **IR Spectroscopy:** Used to identify functional groups and confirm the presence of compounds like starch or sugars in milk or honey.
 - ii. **NMR Spectroscopy:** Can confirm molecular structures and detect adulterants such as added sugars or alcohols in fruit juices.
 - iii. **MS (Mass Spectrometry):** Used for precise identification of molecular weights, helpful in detecting contaminants like heavy metals in seafood.
- e) **Chemical Tests:** Specific chemical tests can be employed to detect certain substances. For example, tests for starch in milk, formalin in fish, or adulterants in oils.

3) Microbiological Analysis:

- a) **Microbial Testing:** Microbiological techniques can detect harmful microorganisms such as bacteria, viruses, and parasites that indicate poor hygiene or contamination.
- b) **Detection of Foreign Particles:** Microscopic analysis can reveal contaminants such as insect parts, mold spores, or dirt in spices, flour, or processed foods.
- c) **Identification of Starch Adulteration:** Microscopic examination of milk can detect added starch, which increases viscosity and alters its composition.

4) DNA Analysis:

- **PCR (Polymerase Chain Reaction):** Molecular techniques like PCR can detect DNA sequences specific to certain species or organisms, helping to identify species substitution or fraudulent labeling. Examples include:
 - **Species Authentication:** PCR can detect species substitution, confirming the presence of cheaper species in expensive seafood or meats.

5) Sensory Evaluation:

- a) **Organoleptic Tests:** Evaluation of sensory properties such as taste, smell, texture, and appearance can sometimes reveal adulteration. For example, the taste or smell of rancid oils or the appearance of artificial coloring.
- b) **Organoleptic Tests:** Evaluation of taste, smell, texture, and appearance can sometimes detect adulteration. Examples include:
 - c) **Rancidity:** Detecting off-flavors or odors indicating rancid oils or fats in food products.
 - d) **Color and Appearance:** Spotting artificial colors or textures that differ from natural foods, such as in spices or beverages.

6. Rapid Testing Kits:

- a) **Immunoassays:** These kits use antibodies to detect specific substances. They are often used for rapid screening of contaminants or adulterants in food samples.
- b) **ELISA (Enzyme-Linked Immunosorbent Assay):** Immunoassays use antibodies to detect specific substances. Examples include:
 - **Detection of Allergens:** ELISA can detect allergens like peanuts or gluten in foods where they shouldn't be present.



Ⓢ Regulatory and Quality Control:

- 1) **Regulatory Standards:** Governments and regulatory bodies set standards and guidelines for permissible levels of contaminants and additives in food products. Compliance with these standards is enforced through inspections and testing.
- 2) **Quality Control Measures:** Food manufacturers implement quality control measures throughout the production process to prevent adulteration and ensure compliance with safety and quality standards.

In summary, detecting adulterants in foods involves a combination of analytical techniques tailored to the type of adulterant and the food product in question. Rigorous testing, adherence to regulatory standards, and continuous monitoring are essential to ensure food safety and protect consumer health. Each method has its strengths and limitations, and often a combination of techniques is used to comprehensively detect and identify adulterants in food products. Regulatory authorities and food manufacturers employ these methods to ensure compliance with safety and quality standards, protecting consumer health and confidence in the food supply.

Ⓢ Examples of Adulterants Detected:

- 1) **Milk:** Addition of water, starch, or urea to increase volume or protein content.
- 2) **Honey:** Adulteration with sugar syrups or corn syrup to increase sweetness and volume.
- 3) **Olive Oil:** Dilution with cheaper oils like soybean or sunflower oil.
- 4) **Spices:** Addition of fillers like starch, sawdust, or ground seeds to increase bulk.
- 5) **Fruit Juices:** Addition of cheaper juices or sugars to increase sweetness.
- 6) **Seafood:** Substitution of cheaper fish species or mislabeling of origins.
- 7) **Tea and Coffee:** Addition of fillers like twigs, leaves, or husks to increase weight.



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The course outcome for Certificate Course in “Nutrition on Women’s Health”

COURSE OUTCOME:

This course will provide a learning of fundamental principles and specialized knowledge in the field of Nutrition and Dietetics. The course curriculum will develop suitable skills and outlooks in therapeutic nutrition and counselling services for the purpose of some disease management and malnutrition. After the completion of the course, the learner will be able to familiarize themselves with the fundamentals of food, nutrients, and their relationship to health. This course will be helpful to create awareness about a balanced diet, various food groups, recommended dietary allowances (RDA), and food hygiene with the maintenance of better health.





NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PANCHIM MEDINIPUR, PIN-712111



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 23/05/2022, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohans Parvin	Sohans Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guichhait	Tina Guichhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jalura Khatun	Jalura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhakta	Khusi Bhakta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/05/22



Poulami Adhikary Mukherjee
29/5/22

Signature of the Teacher



NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR, PIN-731211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 24/05/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchohait	Tina Guchohait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera.
5.	PZVAC07/23/5	Mamoni Mondal	Mamoni Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Manu	Sulekha Manu
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Parimala Bha.

Signature of the Teacher

17/07/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 25/05/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchoit	Tina Guchoit
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

17/05/23



Parimala Das

Signature of the Teacher



NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 26/05/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhhait	Tina Guhhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/5/24



Suman Kalya Khan
Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 27/05/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhhait	Tina Guhhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mendal	Mamon Mendal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sudikha Mana	Sudikha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/07/23



Suman Kalyan Khone
Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 29/05/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Parbasha Chakraborty	Parbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhhait	Tina Guhhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sanita Mallick	Sanita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

NO. 15/17/20



Soma Kalyan
Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 30/05/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mans	Sulekha Mans
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				



Poulami Adhikary Mukherjee
30/05/23
Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 21/05/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mann	Sulekha Mann
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Parimala Das

Signature of the Teacher

15/7/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 07/05/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mann	Sulekha Mann
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Jaximalina

Signature of the Teacher

15/05/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, P. ASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 02/06/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhhait	Tina Guhhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khanrai	Nabin Khanrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Poulami Adhikary / Mukherjee
02/06/23

Signature of the Teacher

15/07/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 03/06/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Gucluait	Tina Gucluait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera.
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahara Khatun	Jahara Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/07/23



Koushik Das

Signature of the Teacher



NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 05/05/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Pia Pal	Pia Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamun Mondal	Mamun Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khushi Bhukta	Khushi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Senli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Poulami Adhikary Mukherjee
5/5/23
Signature of the Teacher





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 05/07/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Rama Maity	Rama Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Delai	Priyanka Delai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

05/07/23



Parimal Das

Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 07/07/2022, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Pia Pal	Pia Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchohail	Tina Guchohail
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Poulami Adhikary Mukherjee
7/6/22

Signature of the Teacher

07/07/22





NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR- PIN-721111



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 08/06/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guethait	Tina Guethait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Smita Mallick	Smita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahara Khatun	Jahara Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhutta	Khusi Bhutta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

08/06/2023



Primalina
Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 07/06/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/07/23



Parimal Das

Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 10/07/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	
2.	PZVAC07/23/2	Purbasha Chakrabarty	Purbasha Chakrabarty	17.	PZVAC07/23/17	Tina Guchohait	Tina Guchohait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Arimaltra

Signature of the Teacher





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASHCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 12/06/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhthait	Tina Guhthait
3.	PZVAC07/23/3	Rama Maity	Rama Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Momisha Bairy	Momisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Suna Kalyan Khone
Signature of the Teacher

15/07/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College.

Class Attendance:

Date: 12/05/2020, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchoit	Tina Guchoit
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bern	Mousumi Bern
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/05/20



Koushik Das

Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 14/06/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchohait	Tina Guchohait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Parimala Das
Signature of the Teacher

14/06/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 15/05/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhhait	Tina Guhhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/05/23



Signature of the Teacher

Signature of the Teacher



NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211

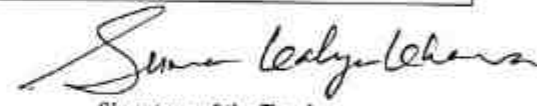


A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 16/06/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Doloi	Priyanka Doloi
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				


Signature of the Teacher

15/06/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 17/05/2022, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhhait	Tina Guhhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Senli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Suman Kalyan Chandra
Signature of the Teacher

17/05/2022





NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 19/07/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sahana Parvin	
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guethait	Tina Guethait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Baiyy	Monisha Baiyy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamoni Mondal	Mamoni Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Suman Kalyan Khan

Signature of the Teacher.





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 21/05/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sehana Parvin	Sehana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guclhait	Tina Guclhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Momisha Bairy	Momisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/07/24



Darimalata

Signature of the Teacher



NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 22/05/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guethait	Tina Guethait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amarita Pramanik	Amarita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/07/23



Koushik

Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 23/05/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhhait	Tina Guhhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Prasmanik	Amrita Prasmanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/07/20



Parimal Das

Signature of the Teacher



NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE, PASCHIM MEDINIPUR, PIN-751211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 24/06/2023 Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhhait	Tina Guhhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Manisha Bairy	Manisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Sarimal Chha

Signature of the Teacher





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 26/06/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

Jasminalatha
Signature of the Teacher

15/07/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-731211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 27/05/2023, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Soltana Parvin	Soltana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guhmit	
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bairy	Monisha Bairy	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Sabita Adhikary	Sabita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/07/20



Kamrunnisa

Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE, PASCHIM MEDINIPUR, PIN-721211



A Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Class Attendance:

Date: 28/06/2022, Time:

Sl. No.	Form No.	Name of the Students	Signature of the Students	Sl. No.	Form No.	Name of the Students	Signature of the Students
1.	PZVAC07/23/1	Piu Pal	Piu Pal	16.	PZVAC07/23/16	Sohana Parvin	Sohana Parvin
2.	PZVAC07/23/2	Purbasha Chakraborty	Purbasha Chakraborty	17.	PZVAC07/23/17	Tina Guchhait	Tina Guchhait
3.	PZVAC07/23/3	Ruma Maity	Ruma Maity	18.	PZVAC07/23/18	Sunita Mallick	Sunita Mallick
4.	PZVAC07/23/4	Monisha Bary	Monisha Bary	19.	PZVAC07/23/19	Mousumi Bera	Mousumi Bera
5.	PZVAC07/23/5	Mamon Mondal	Mamon Mondal	20.	PZVAC07/23/20	Jahura Khatun	Jahura Khatun
6.	PZVAC07/23/6	Subita Adhikary	Subita Adhikary	21.	PZVAC07/23/21	Khusi Bhukta	Khusi Bhukta
7.	PZVAC07/23/7	Anindita Patra	Anindita Patra	22.	PZVAC07/23/22	Priyanka Dolai	Priyanka Dolai
8.	PZVAC07/23/8	Mousumi Samanta	Mousumi Samanta	23.	PZVAC07/23/23	Tinku Maji	Tinku Maji
9.	PZVAC07/23/9	Payel Samanta	Payel Samanta	24.	PZVAC07/23/24	Rupsa Adak	Rupsa Adak
10.	PZVAC07/23/10	Amrita Pramanik	Amrita Pramanik	25.	PZVAC07/23/25	Priya Hazra	Priya Hazra
11.	PZVAC07/23/11	Rimpa Dutta	Rimpa Dutta	26.	PZVAC07/23/26	Ruma Das	Ruma Das
12.	PZVAC07/23/12	Nabin Khamrai	Nabin Khamrai	27.	PZVAC07/23/27	Priya Adak	Priya Adak
13.	PZVAC07/23/13	Prasenjit Das	Prasenjit Das	28.	PZVAC07/23/28	Seuli Rani Bhunia	Seuli Rani Bhunia
14.	PZVAC07/23/14	Piu Maity	Piu Maity	29.	PZVAC07/23/29	Sulekha Mana	Sulekha Mana
15.	PZVAC07/23/15	Sucharita Adak	Sucharita Adak				

15/07/22



Jaximal Das

Signature of the Teacher



NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)
Narajole, Paschim Medinipur, PIN-721211



Result Sheet of a Value-Added Course (VAC) on Nutrition and Women's Health offered by Dept. of Physiology and Dept. of Zoology, Narajole Raj College

Full Marks: 50

Time: 50 Minutes

Result Sheet

Sl. No.	Form No.	Name of the Students	Marks Obtained	Grade
1.	PZVAC07/23/1	Piu Pal	38	A
2.	PZVAC07/23/2	Purbasha Chakraborty	44	A ⁺
3.	PZVAC07/23/3	Ruma Maity	40	A
4.	PZVAC07/23/4	Monisha Bairy	36	A
5.	PZVAC07/23/5	Mamon Mondal	36	A
6.	PZVAC07/23/6	Sabita Adhikary	36	A
7.	PZVAC07/23/7	Anindita Patra	38	A
8.	PZVAC07/23/8	Mousumi Samanta	36	A
9.	PZVAC07/23/9	Payel Samanta	36	A
10.	PZVAC07/23/10	Amrita Pramanik	36	A
11.	PZVAC07/23/11	Rimpa Dutta	36	A
12.	PZVAC07/23/12	Nabin Khamrai	40	A
13.	PZVAC07/23/13	Prasenjit Das	40	A
14.	PZVAC07/23/14	Piu Maity	38	A
15.	PZVAC07/23/15	Sucharita Adak	44	A ⁺
16.	PZVAC07/23/16	Sohana Parvin	38	A
17.	PZVAC07/23/17	Tina Guchhait	44	A ⁺
18.	PZVAC07/23/18	Sunita Mallick	44	A ⁺
19.	PZVAC07/23/19	Mousumi Bera	44	A ⁺
20.	PZVAC07/23/20	Jahura Khatun	44	A ⁺
21.	PZVAC07/23/21	Khusi Bhukta	44	A ⁺
22.	PZVAC07/23/22	Priyanka Dolai	44	A ⁺
23.	PZVAC07/23/23	Tinku Maji	44	A ⁺
24.	PZVAC07/23/24	Rupsa Adak	44	A ⁺
25.	PZVAC07/23/25	Priya Hazra	38	A
26.	PZVAC07/23/26	Ruma Das	44	A ⁺
27.	PZVAC07/23/27	Priya Adak	44	A ⁺
28.	PZVAC07/23/28	Seuli Rani Bhunia	40	A
29.	PZVAC07/23/29	Sulekha Mana	38	A

Posimal Dha
Dr. Parimal Dha

Assistant Professor & HOD
Dept. of Physiology
Narajole Raj College
Narajole, Paschim Medinipur

Signature of Course Coordinator

Paucami Adhikary Mukherjee

Asstt. Professor & H.O.D.
Dept. of Zoology
Narajole Raj College
Narajole, Paschim Medinipur

Note: The grades are as follows: A⁺: 85 percent and above || A: 70 percent to less than or equal to 84 percent || B: 60 percent to less than or equal to 69 percent || C: 50 percent to less than or equal to 59 percent || D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Manisha Baisya
students of Narajole Raj College, Semester

has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A

[Signature]
Course Coordinators

Pragna Palamita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature]
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Piu Pal

students of Narajole Raj college, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A.....

[Signature]
Course Coordinators

Pragna Paramita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature] 03/07/23
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Purbasha Chakraborty
students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade **A+**

[Signature]
.....
Course Coordinators

Ragna Pasamite Mondal
.....
IQAC Coordinator

[Signature]
.....
Vice Principal

[Signature] 03/07/23
.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. – Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Mamon Mondal
students of Narajole Raj college, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A.....

[Signature]
Course Coordinators

[Signature]
IQAC Coordinator

[Signature]
Vice Principal

[Signature] 03/07/23
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Sabita Adhikary
students of Narajole Raj College, Semester

has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained GradeA.....

[Signature]
Course Coordinators

[Signature]
IQAC Coordinator

[Signature]
Vice Principal

[Signature]
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**


This is to certify that

Mr./Mrs./Ms. Mousumi Samanta

students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained GradeA.....


.....
Course Coordinators


.....
IQAC Coordinator


.....
Vice Principal


.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Payel Samanta
students of Narajole Raj College, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A.....

[Signature]
.....
Course Coordinators

Pragna Pasamite Mondal
.....
IQAC Coordinator

[Signature]
.....
Vice Principal

[Signature]
.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College

[NAAC Accredited 'B' Grade Govt. - Aided College]

Narajole :: Paschim Medinipur :: 721211



Value-Added Course on

Nutrition and Women's Health

This is to certify that

Mr./Mrs./Ms. Amrita Pramanik

students of Narajole Raj College, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A.....

Pragna Pramanik
Course Coordinators

Pragna Pramanik Mondal
IQAC Coordinator

Rajendra
Vice Principal

Pragna Pramanik
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
[NAAC Accredited 'B' Grade Govt. - Aided College]
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Rimpa Dutta
students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A.....

[Signature]
Course Coordinators

Pragnasamita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature]
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



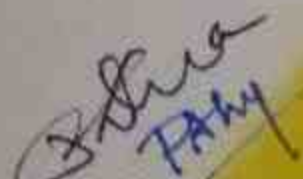
**Value-Added Course on
Nutrition and Women's Health**


This is to certify that


Mr./Mrs./Ms. Sucharita Adak

students of Narajole Raj College, Semester

has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade **A+**


.....
Course Coordinators


.....
IQAC Coordinator


.....
Vice Principal


.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Tina Guchhait
students of Narajole Raj College, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A+

[Signature]
Course Coordinators

Pragna Pramita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature] 03/07/22
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Sunita Mallick
students of Narajole Raj College, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A+

[Signature]
Course Coordinators

Reagne Paramita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature] 13/07/23
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that


Mr./Mrs./Ms. Mousumi Bera

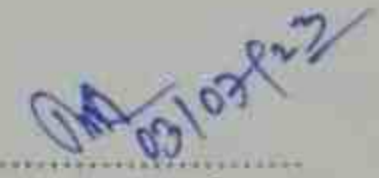
students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade **A⁺**.....


.....
Course Coordinators


.....
IQAC Coordinator


.....
Vice Principal


.....
Principal

Note: The grades are as follows: A⁺: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Jahura Khatun
students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade **A+**

[Signature]
Course Coordinators

Ragne Paramita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature] 03/07/23
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Khusi Bhakta

students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade **A+**

[Signature]
.....
Course Coordinators

Pragya Paramita Mondal
.....
IQAC Coordinator

[Signature]
.....
Vice Principal

[Signature]
03/07/23
.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College

[NAAC Accredited 'B' Grade Govt. - Aided College]
Narajole :: Paschim Medinipur :: 721211



Value-Added Course on Nutrition and Women's Health

This is to certify that

Mr./Mrs./Ms. Priyanka Dolai
students of Narajole Raj College, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A+

[Signature]
.....
Course Coordinators

Pragneswarmita Mondal
.....
IQAC Coordinator

[Signature]
.....
Vice Principal

[Signature]
.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Tinku Maji
students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A+

[Signature]
.....
Course Coordinators

Pragnevasamite Mondal
.....
IQAC Coordinator

[Signature]
.....
Vice Principal

[Signature] 03/07/23
.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College

(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



Value-Added Course on Nutrition and Women's Health

This is to certify that

Mr./Mrs./Ms. Rupsa Adak
students of Narajole Raj college, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A+

[Signature]
Course Coordinators

Peagne Paramita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature] 03/07/23
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
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Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Ruma Das
students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade **A+**

[Signature]
Course Coordinators

Ragneparamita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature] 03/07/23
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College

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Narajole :: Paschim Medinipur :: 721211



Value-Added Course on Nutrition and Women's Health

This is to certify that

Mr./Mrs./Ms.

Priya Adak

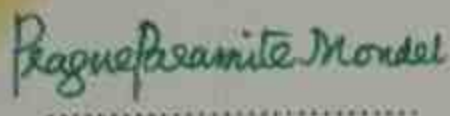
students of

Narajole Raj College


..... Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade **A+**


.....
Course Coordinators


.....
IQAC Coordinator


.....
Vice Principal


.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Ruma Maity
students of Narajole Raj college, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A.....

Ruma Maity
Course Coordinators

Pragna Paramita Mondal
IQAC Coordinator

Pragna
Vice Principal

Pragna
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Anindita Patra
students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A.....

[Signature]
Course Coordinators

Prague Paramite Mondol
IQAC Coordinator

[Signature]
Vice Principal

[Signature] 03/09/22
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

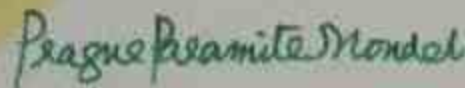
This is to certify that


Mr./Mrs./Ms. Nabin Khamrai


students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained GradeA.....


.....
Course Coordinators


.....
IQAC Coordinator


.....
Vice Principal


.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College

(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



Value-Added Course on

Nutrition and Women's Health

This is to certify that

Mr./Mrs./Ms.

Prasenjit Das

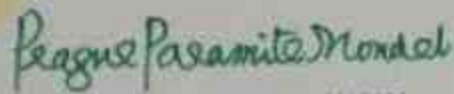
students of


Narajole Raj College


Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained GradeA.....


.....
Course Coordinators


.....
IQAC Coordinator


.....
Vice Principal


.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms.

Piu Maity

students of

Narajole Raj College

..... Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from **May 2023 to July 2023** organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade *A*

[Signature]

.....
Course Coordinators

Pragne Paramita Mondal

.....
IQAC Coordinator

[Signature]

.....
Vice Principal

[Signature] 23/07/22

.....
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
[NAAC Accredited 'B' Grade Govt. - Aided College]
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Sohana Parvin

students of Narajole Raj College, Semester

has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A

[Signature]
Course Coordinators

Pragya Paramita Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature]
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



Value-Added Course on
Nutrition and Women's Health

This is to certify that

Mr./Mrs./Ms. Priya Hazra
students of Narajole Raj College, Semester

has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A

[Signature]
Course Coordinators

[Signature]
IQAC Coordinator

[Signature]
Vice Principal

[Signature]
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
(NAAC Accredited 'B' Grade Govt. - Aided College)
Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Senli Rani Bhunia
students of Narajole Raj College, Semester

..... has participated in the Value-Aided Course on Nutrition and Women's Health of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained GradeA.....

[Signature]
Course Coordinators

Pragnesamite Mondal
IQAC Coordinator

[Signature]
Vice Principal

[Signature]
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



Narajole Raj College
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Narajole :: Paschim Medinipur :: 721211



**Value-Added Course on
Nutrition and Women's Health**

This is to certify that

Mr./Mrs./Ms. Sulekha Mana

students of Narajole Raj College, Semester

..... has participated in the **Value-Aided Course on Nutrition and Women's Health** of 33 days from May 2023 to July 2023 organized as per UGC norms by the Dept. of Physiology and Dept. of Zoology under the guidance of IQAC, Narajole Raj College and obtained Grade A

[Signature]
Course Coordinators


[Signature]
IQAC Coordinator

[Signature]
Vice Principal

[Signature]
Principal

Note: The grades are as follows: A+: 85 percent and above | A: 70 percent to less than or equal to 84 percent | B: 60 percent to less than or equal to 69 percent | C: 50 percent to less than or equal to 59 percent | D: Below 49 percent.



 GPS Map Camera



Kismat Narajole, West Bengal, India

HJ84+G3P, Medinipur Ln, Kismat Narajole, West Bengal 721232,
India

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Long 87.604457°

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GPS Map Camera

Kismat Narajole, West Bengal, India

HJ84+G3P, Medinipur Ln, Kismat Narajole, West Bengal 721232,

India

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Long 87.60452°

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Google



15/07/20



TURN OFF THE LIGHTS & FANS BEFORE LEAVING

GPS Map Camera

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India

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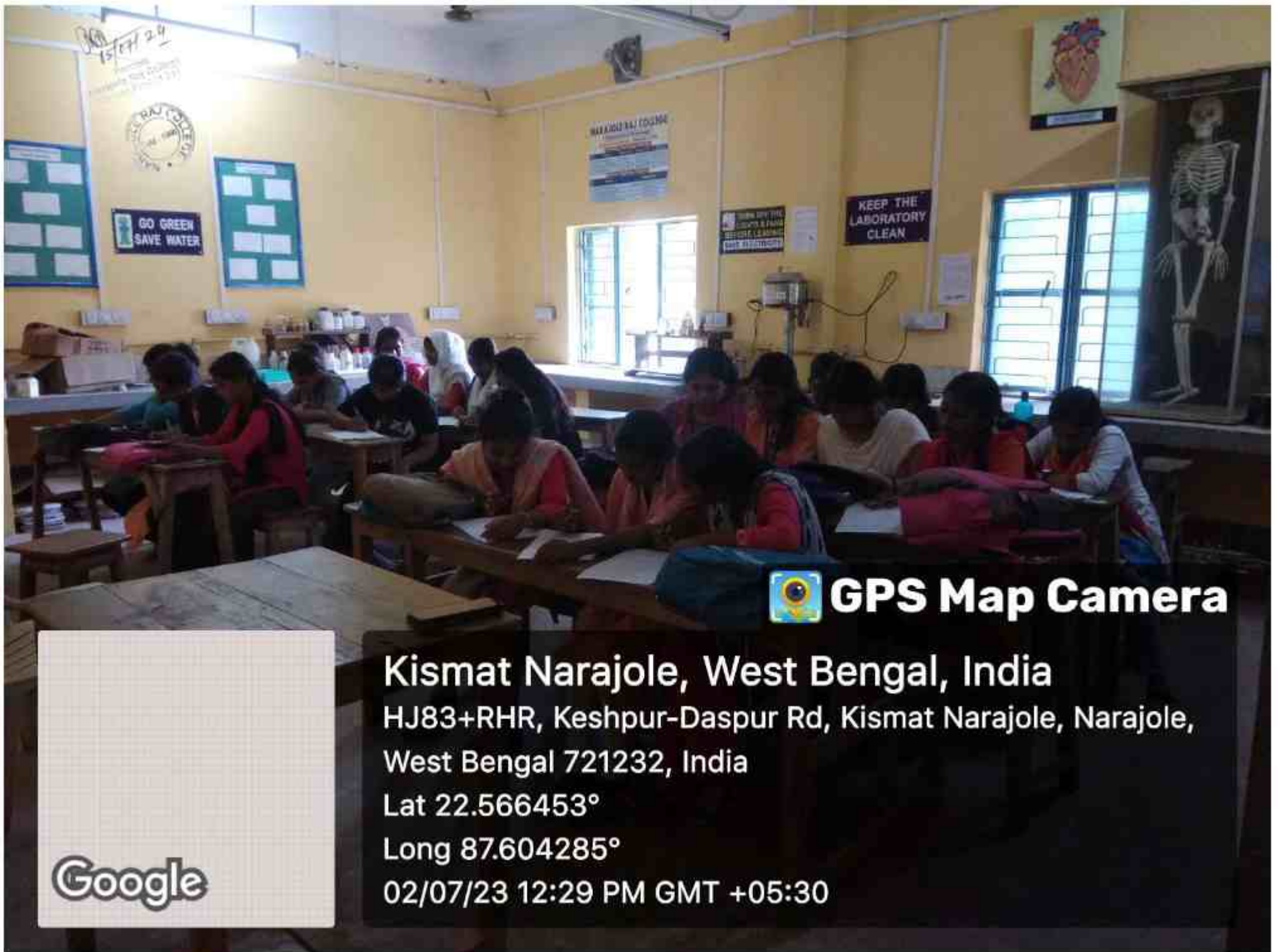
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Google



GPS Map Camera

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West Bengal 721232, India

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Long 87.604285°

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Google



GPS Map Camera

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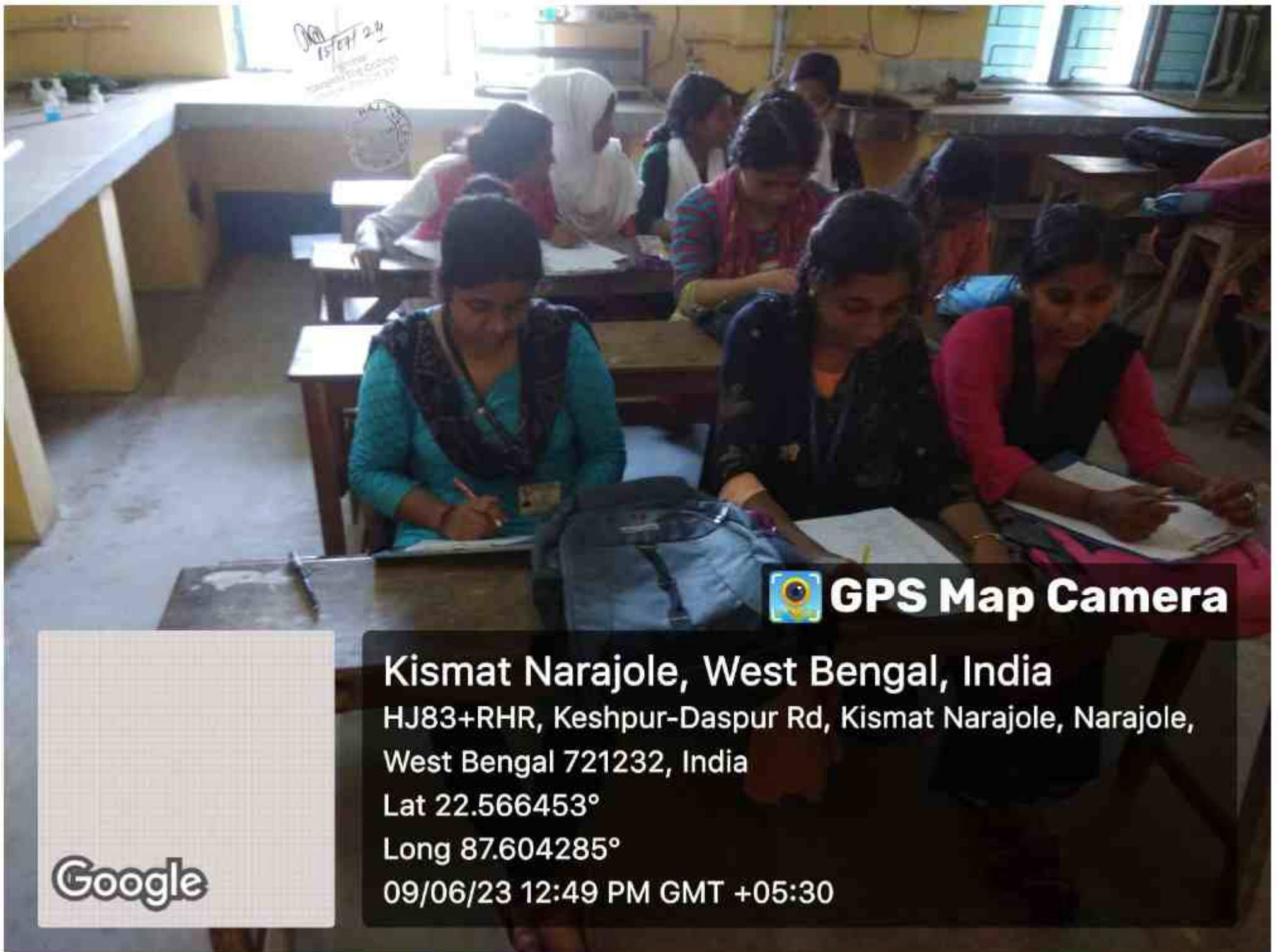
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Google



GPS Map Camera

Kismat Narajole, West Bengal, India

HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole,

West Bengal 721232, India

Lat 22.566453°

Long 87.604285°

09/06/23 12:49 PM GMT +05:30

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GPS Map Camera

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HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole,

West Bengal 721232, India

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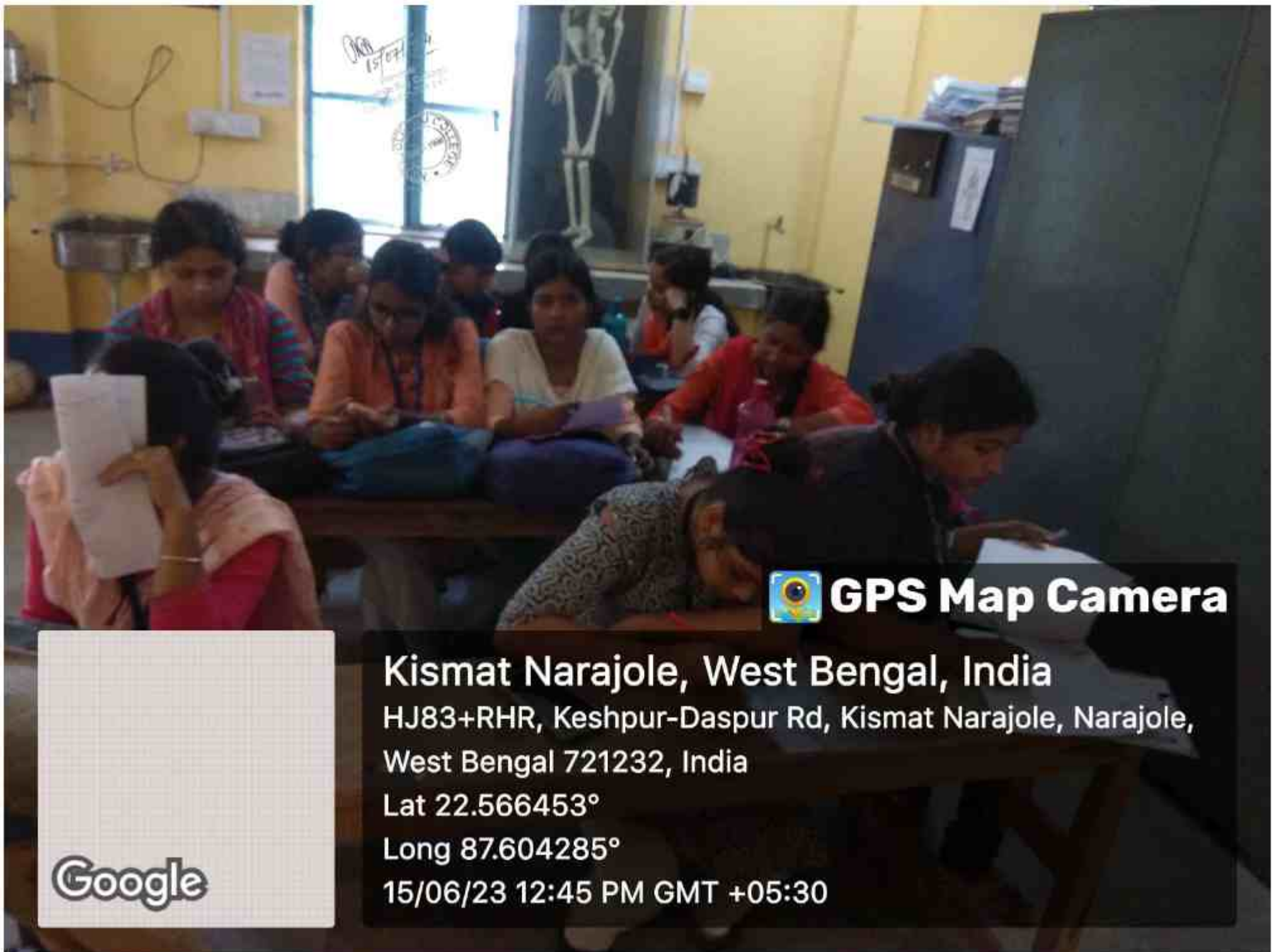
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West Bengal 721232, India

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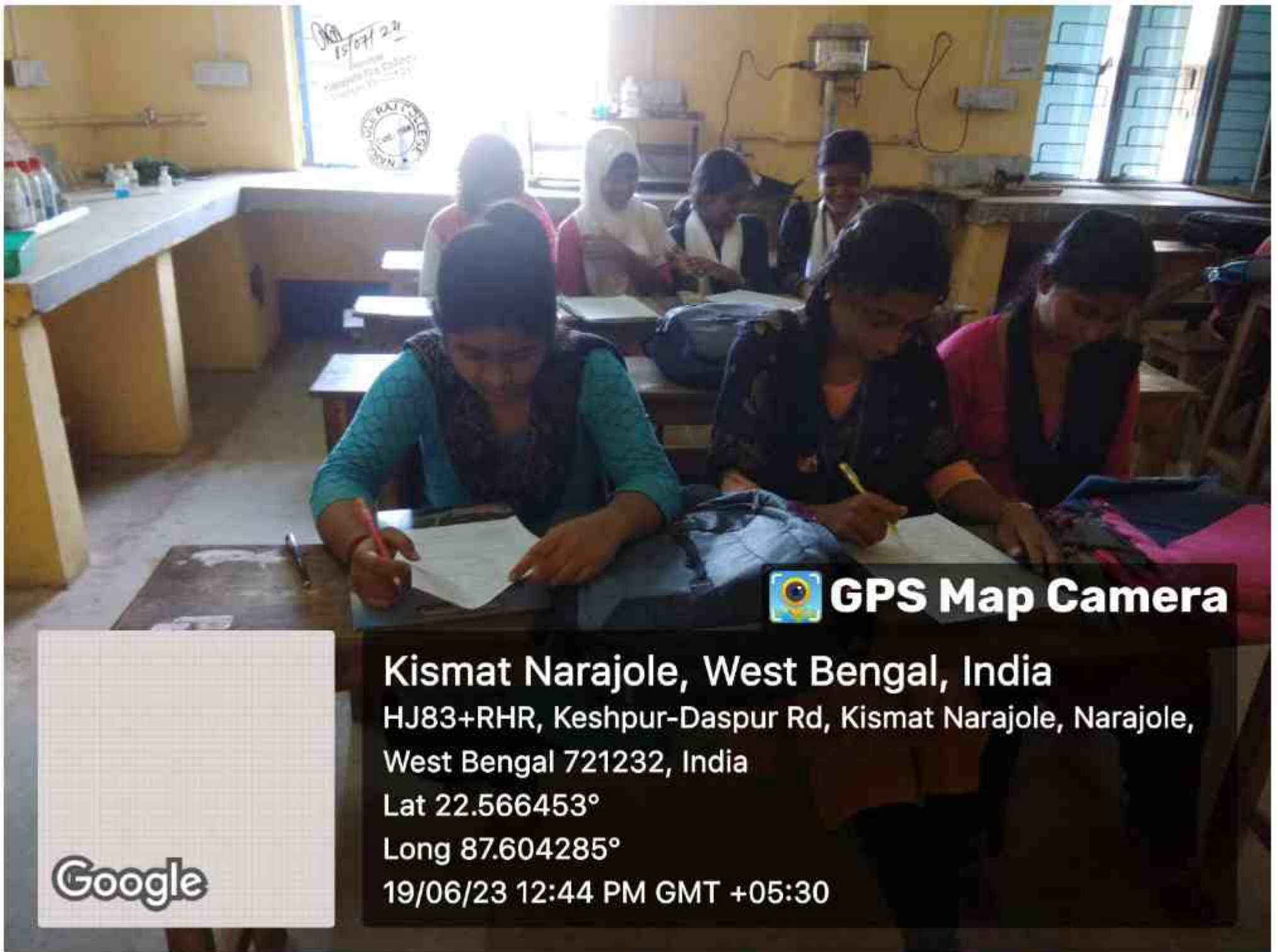
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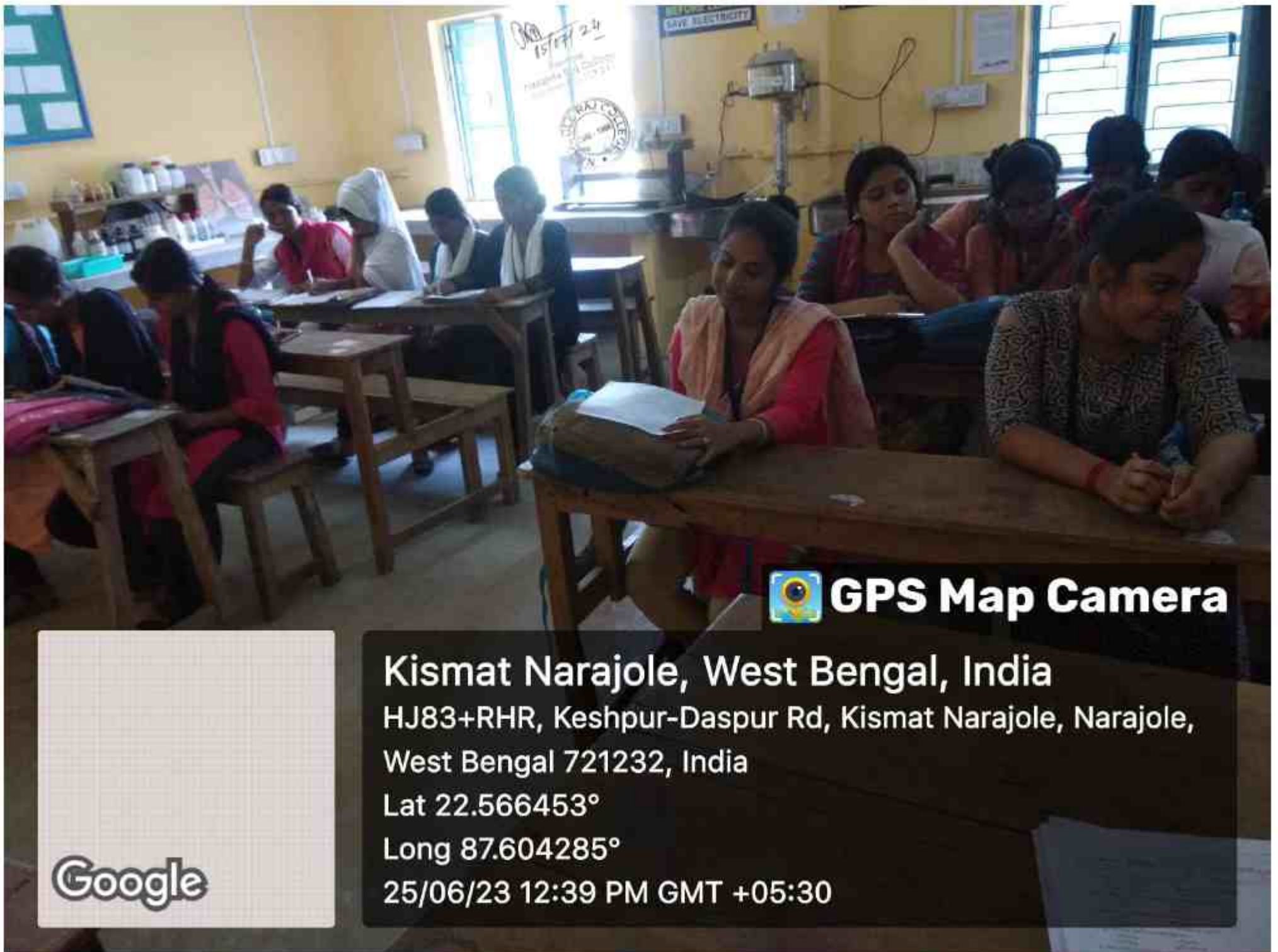
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 **GPS Map Camera**

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HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole,
West Bengal 721232, India
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GPS Map Camera

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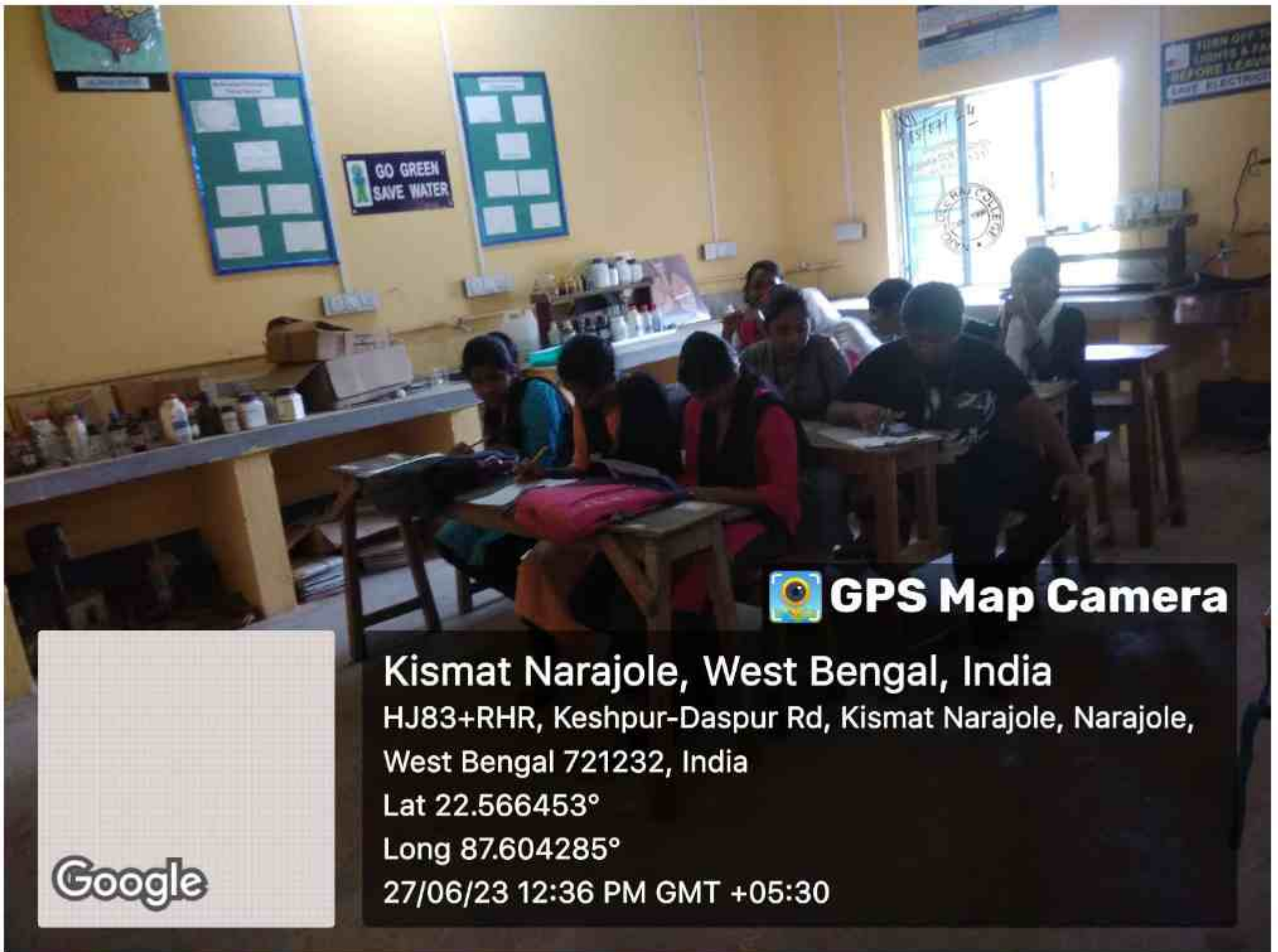
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Google



GPS Map Camera

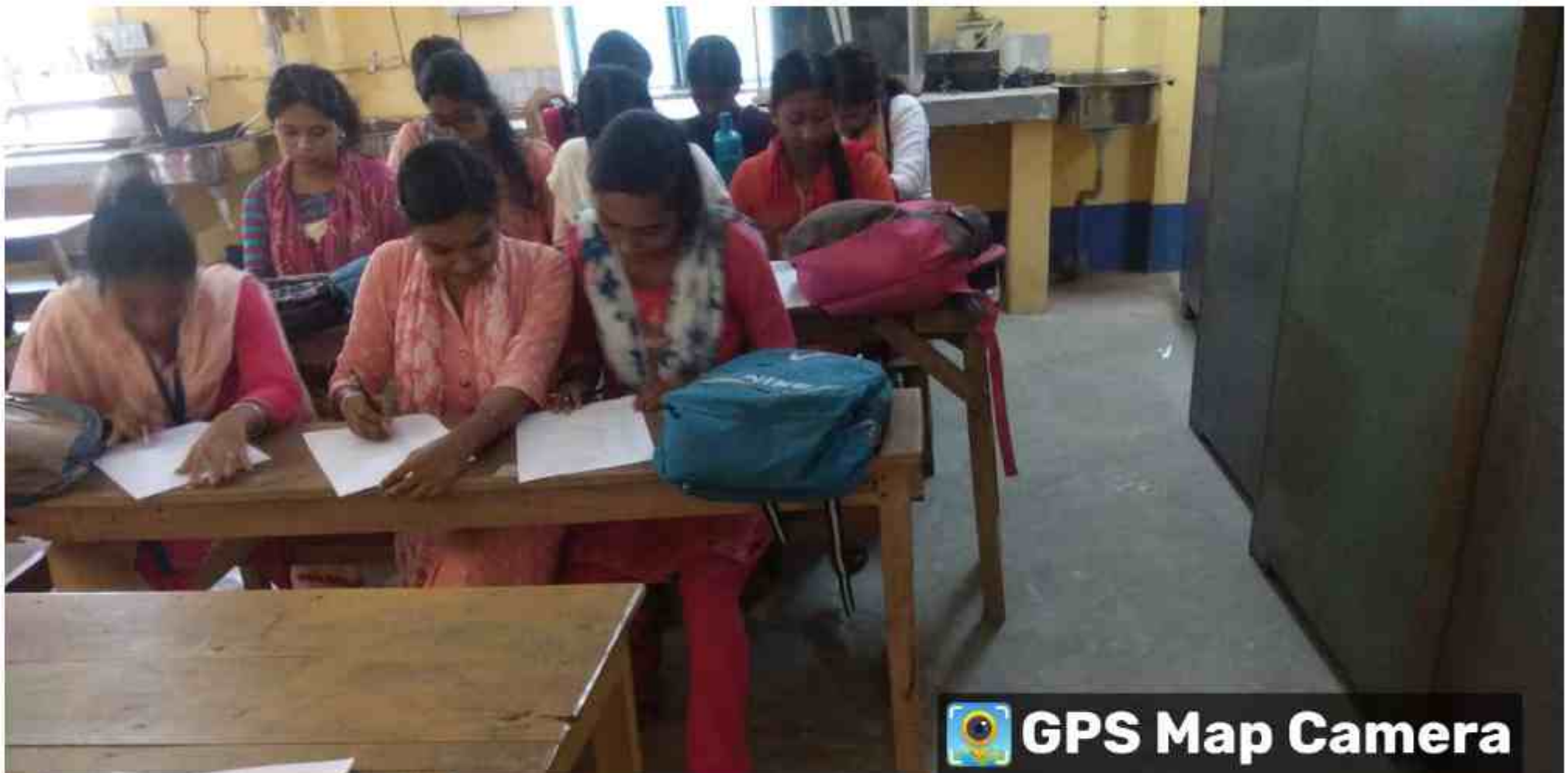
Kismat Narajole, West Bengal, India
HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole,
West Bengal 721232, India

Lat 22.566453°

Long 87.604285°

27/06/23 12:36 PM GMT +05:30

Google



GPS Map Camera



Kismat Narajole, West Bengal, India

HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole,

West Bengal 721232, India

Lat 22.566453°

Long 87.604285°

28/06/23 12:35 PM GMT +05:30



 **GPS Map Camera**

Kismat Narajole, West Bengal, India
HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole,
West Bengal 721232, India

Lat 22.566453°

Long 87.604285°

29/06/23 12:33 PM GMT +05:30





GPS Map Camera



Kismat Narajole, West Bengal, India

HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole,

West Bengal 721232, India

Lat 22.566453°

Long 87.604285°

01/07/23 12:31 PM GMT +05:30



Narajole Raj College



(A NAAC Accredited 'B' Grade Govt.-Aided General Degree College)
Narajole:: Paschim Medinipur:: PIN - 721211

Language Lab

presents

Certificate Course on ESL (English as a Second Language)

1st June – 23rd June, 2023



English as a
Second
Language

Course Coordinator: Pragna Paramita Mondal, HOD, Dept. of
English & IQAC Coordinator, Narajole Raj College

Contact No.: 7044793038

AN IQAC INITIATIVE

Aim of the CC:

The purpose of the Certificate Courses (CC) is to impart transferable and life skills to the students. Transferable skills refer to the 'portable skills' of an individual that enable him/her to navigate across different areas of life socially as well as professionally. These courses are aimed at adding value to the learning outcomes of the students and should help them in getting placed after completion of the degree. Sometimes the lack of relevant, industry-specific experience becomes a deterrent for potential candidates seeking employment opportunities. Students can overcome this constraint by demonstrating a considerable range of transferable skills that they have acquired and developed through these CCs. The inclusive and interdisciplinary scope of the CCs allows students from Humanities to opt for Value Added Courses in the Sciences and vice-versa.



About the Course:

This course aims to provide the essential knowledge, skills and understanding of the English language that would enable students to operate confidently, effectively and independently in life and at work. English is the dominant language in the age of globalization and having linguistic proficiency in English can open up many career opportunities for students. Changes in the global financial and social climates continue to reveal the benefits of the ESL programs where non-native speakers can actively engage in functional English language acquisition. In this course students will receive training in English communication as it applies to different professional situations.

AN IQAC INITIATIVE

Course Objectives:

- To improve the speaking ability in English both in terms of fluency and comprehensibility
- To help students identify their flaws in English pronunciation and have an individual plan to rectify them
- To facilitate English communication in a variety of situations from social to more formal settings
- To train students in vocabulary development and application and improve their word usage
- Enhance soft skills and presentation of ideas in a variety of situations

Course Outcomes:

- This course will enable students to use English to put forth their opinions and to conduct public presentations
- It will help learners understand job profiles and apply for roles that require effective communication skills in English
- Students can learn to use appropriate vocabulary in any kind of spoken discourse on diverse topics
- Enable learners to use clear pronunciation and basic structures in oral communication



AN IQAC INITIATIVE

Syllabus:

Unit-I

1. Giving Personal Information
2. Handling Career Interview Questions
3. Advanced Vocabulary for Workplace
4. Crafting Effective Presentations

Unit-II

1. Drafting a Resume
2. Speech & Social Etiquettes
3. Techniques for Public Speaking
4. Group Discussion

Unit-III

1. Telephone Skills
2. Email Etiquette
3. Asking for Information
4. Describing People & Experiences (Situational Conversations)

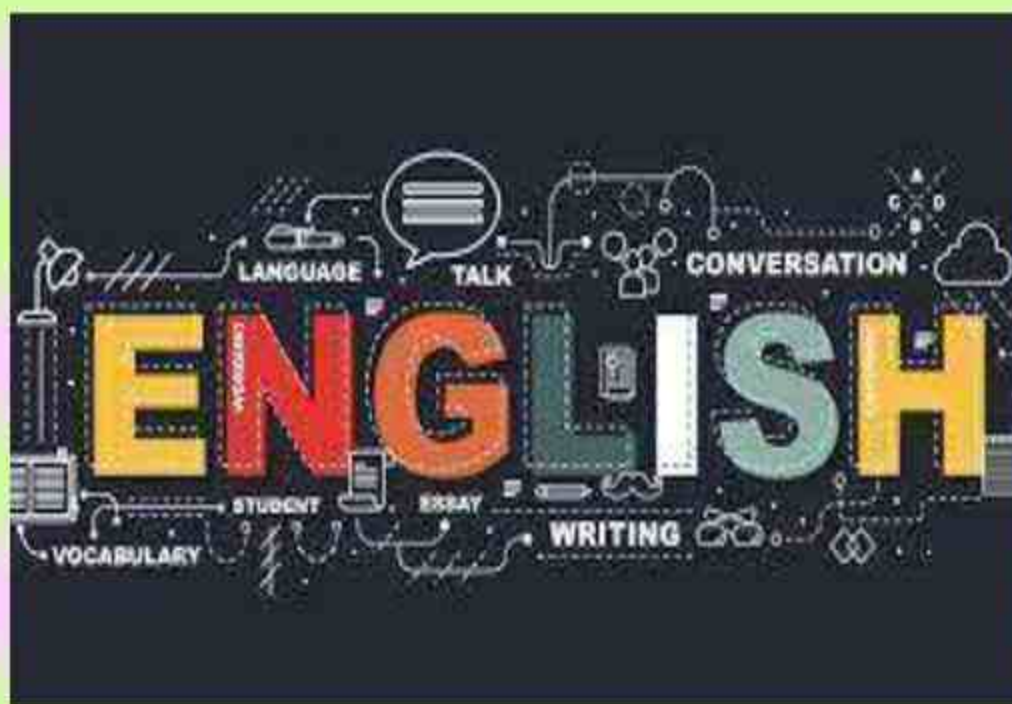
Unit-IV

1. Pronunciation
2. Listening Comprehension
3. Conversations on Financial Contexts
4. Using Emotional Intelligence in Speech



Unit-V

1. Professional Vocabulary: Travel & Tourism Industry
2. Media Skills: Programme Anchoring/Moderating Talk Shows
3. News Reading
4. Content Creation & Presentation (Cultural Entrepreneurship on Social Media)



AN IQAC INITIATIVE

Schedule:

Date & Day	Time	Faculty	Topic
01/06/2023 (Thursday)	9:00 - 11:00 am	Pragna Paramita Mondal	1. Giving Personal Information 2. Handling Career Interview Questions
02/06/2023 (Friday)	10:00 - 11:00 am	Pragna Paramita Mondal	3. Advanced Vocabulary for Workplace
03/06/2023 (Saturday)	9:00 - 11:00 am	Pragna Paramita Mondal	4. Crafting Effective Presentations
06/06/2023 (Tuesday)	9:00 - 11:00 am	Pragna Paramita Mondal	5. Drafting a Resume 6. Speech & Social Etiquettes
07/06/2023 (Wednesday)	10:00 - 11:00 am	Pragna Paramita Mondal	7. Techniques for Public Speaking
09/06/2023 (Friday)	9:00 - 11:00 am	Pragna Paramita Mondal	8. Group Discussion 9. Telephone Skills
10/06/2023 (Saturday)	9:00 - 11:00 am	Pragna Paramita Mondal	10. Email Etiquette 11. Asking for Information
13/06/2023 (Tuesday)	9:00 - 11:00 am	Pragna Paramita Mondal	12. Describing People & Experiences
14/06/2023 (Wednesday)	9:00 - 11:00 am	Pragna Paramita Mondal	13. Pronunciation
15/06/2023 (Thursday)	9:00 - 11:00 am	Pragna Paramita Mondal	14. Listening Comprehension
16/06/2023 (Friday)	9:00 - 11:00 am	Pragna Paramita Mondal	15. Conversations on Financial Contexts
17/06/2023 (Saturday)	9:00 - 11:00 am	Pragna Paramita Mondal	16. Using Emotional Intelligence in

AN IQAC INITIATIVE



			Speech
20/06/2023 (Tuesday)	9:00 - 11:00 am	Pragna Paramita Mondal	Professional Vocabulary Media Skills
21/06/2023 (Wednesday)	9:00 - 11:00 am	Pragna Paramita Mondal	News Reading Cultural Entrepreneurship
22/06/2023 (Thursday)	9:00 - 11:00 am	Pragna Paramita Mondal	Assessment I
23/06/2023 (Friday)	9:00 - 11:00 am	Pragna Paramita Mondal	Assessment II
Total Class Hours =			30

Important Information:

- Attendance in all classes is compulsory. Absenteeism, except on reasonable grounds, will be strictly treated.
- Classes will be held primarily in the offline mode.
- Some classes may be held online via Google Meet as per requirement. Prior intimation will be given to students regarding online classes if any.
- Students have to appear for the Assessment at the end of the programme for securing course completion certificates.
- The classes will be interactive and task-based. Students must bring notebooks for class work.
- This course has a distinct professional approach and students must try to make the most of it through active learning.



AN IQAC INITIATIVE

Eligibility:

This CC is open to students of all semesters and all departments. Student who are currently enrolled in any AOC/VAC in other departments are asked not to register for this course to avoid overlap in class hours.

Registration:

Students shall register for the course on a 'First Come, First Served' basis by submitting the duly filled-in registration form through the concerned Head of the Department to which the student belongs. The total number of seats is 30.

Course Fee:

Students have to deposit a registration fee of Rs. 100/- (Rupees One hundred only) at the time of enrolment in the course.

Evaluation:

Evaluation will be conducted in the offline mode at the end of the course. Two Assessments of 100 marks each will be administered on the last couple of days of the programme. The cumulative performance of students will be considered for awarding grades at the time of course completion. The total marks assigned for the assessment of students is 200.

15/11/20



AN IQAC INITIATIVE

Faculty Information:

Course Coordinator
&
Faculty:

Pragna Paramita Mondal

Assistant Professor & HOD,
Dept. of English

IQAC Coordinator
Narajole Raj College



Brief Bio:

Pragna Paramita Mondal completed her M.Phil as UGC Junior Research Fellow at the Institute of Development Studies Kolkata and is pursuing PhD on surrogacy in India at the Women's Studies Research Centre, University of Calcutta. She has published in the *Economic & Political Weekly* (2018) and has contributed chapters in *Population Dynamics in Eastern India and Bangladesh: Demographic, Health and Developmental Issues* (Springer, 2020), *Statelessness, Governance, and the Problem of Citizenship* (Manchester University Press, 2021) and *The Palgrave Handbook of Social Fieldwork* (Palgrave Macmillan, 2023). In 2019 she was awarded the Calcutta University International Conference Travel Grant for paper presentation at the International Symposium on Consuming Gender: Intersections on Identity and Consumption in the Global South at the University of the Witwatersrand, Johannesburg, South Africa. In 2021, she presented her work in the workshop of the Decolonisation Group at Utrecht University (Netherlands), at the University of Portsmouth (UK), and at the University of Birmingham (UK). She has also delivered invited lectures on women and reproductive markets in the Global South at the University of Missouri in Barcelona, Spain, in 2020 and 2022.

AN IQAC INITIATIVE



About the Language Lab:

The Language Lab of Narajole Raj College has been offering English language training through internet based resources since 2018. It is an accepted fact that English speaking skills are very useful in creating career opportunities. Narajole Raj College is based in the rural area and students here have tremendous potential and commendable discipline-specific knowledge but lack public exposure and confidence. The Language Lab initiative is an attempt to develop their public personality, to enhance their language proficiency and to train them to become successful professionals with good communication skills. To make the language learning process easy and interesting, a Web Assisted Language Laboratory (WALL) facility is made available for students. With the help of web-based resources, the students are assisted in polishing their listening, speaking and comprehension skills. The use of headphones, computers and the electronic medium stimulates the learners to increase their linguistic aptitude and grasp the lessons easily and quickly.



AN IQAC INITIATIVE

About the IQAC:

The Internal Quality Assurance Cell (IQAC) has been conceived by NAAC for the purpose of quality enhancement and sustenance within institutions. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of the college. The Certificate Course (CC) is an initiative taken by the IQAC of Narajole Raj College and will be administered as a Certificate Course by different academic departments to facilitate skill development among students.



AN IQAC INITIATIVE



Narajole Raj College



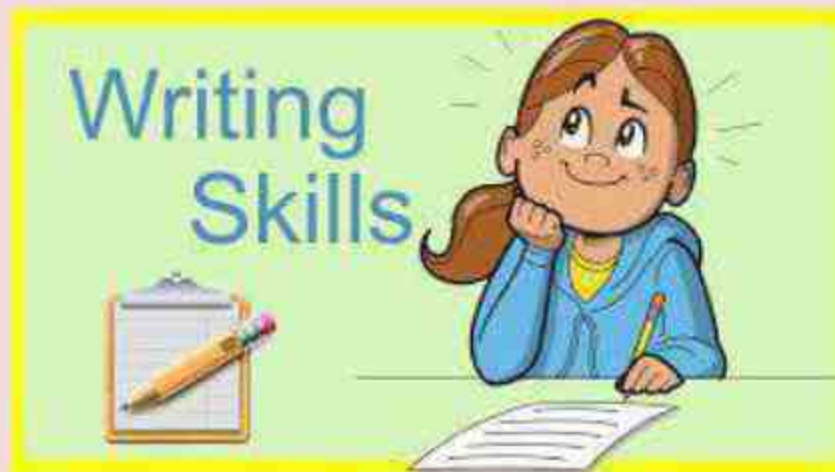
(A NAAC Accredited 'B' Grade Govt.-Aided General Degree College)
Narajole:: Paschim Medinipur:: PIN - 721211

Department of English

presents

Add-on Course on English Writing Skills

2nd June – 28th June, 2023



**Course Coordinator: Pragna Paramita Mondal, HOD, Dept. of English &
IQAC Coordinator, Narajole Raj College
Contact No.: 7044793038**

AN IQAC INITIATIVE

Aim of the AOC:

The purpose of the Add-on Course is to promote skill-oriented learning and provide additional knowledge to students in order to supplement the scope of their discipline. It would expose students to application-based approaches and augment their perceptions of diverse industrial requirements. These courses are aimed at adding value to the learning outcomes of the students and should help them in getting placed after completion of the degree. Sometimes the lack of relevant, industry-specific experience becomes a deterrent for potential candidates seeking employment opportunities. Students can overcome this constraint by demonstrating a considerable range of transferable skills that they have acquired and developed through these AOCs.

About the Course:

English is used as the lingua franca among people from different cultures and ethnicities in the world. This course aims to improve students' penmanship in English through dedicated writing exercises. Writing in English is a vital skill that will benefit the students and build a strong foundation for their academic and professional enrichment. Besides improving academic performance, it can also contribute to their social and emotional development. The inability to write well may sometimes affect their chances of getting absorbed in the job market or in research facilities. This course intends to provide a one-stop solution to these diverse problems that learners commonly face.

AN IQAC INITIATIVE



Course Objectives:

- To build confidence, reduce anxiety and strengthen personal opinions among students
- To develop fluency and style by encouraging word and sentence variety
- To increase vocabulary and improve written expressions among students
- To encourage the use of edited English in the general writing assignments of students
- To improve the understanding of relationships among sentence structures , word choice and meaning
- To enable students to develop ideas with logical support, facts and their interpretations
- To augment the effective use of library and online resources among students while writing
- To facilitate the use of conventions of grammar when creating paragraphs or written templates in English



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Course Outcomes:

At the end of the course, the student will be able to do the following:

1. Write a paragraph with a topic sentence, support, and concluding sentence
2. Write his/her views and opinions in a few words possible
3. Produce coherent and unified paragraphs with adequate support and detail
4. Produce a well-organized academic/professional document in English
5. Produce appropriate vocabulary and correct word forms
6. Use a variety of accurate sentence structures
7. Use language as an effective tool of communication



AN IQAC INITIATIVE

Syllabus:

Unit-I

1. Paragraph Writing
2. Descriptive Writing
3. Informal Letter
4. Notice
5. Letters to bank/police station/government offices

Unit-II

1. Cover Letter
2. Letter of recommendation
3. Offer Letter and its response
4. Leave application
5. Letter of Resignation

Unit-III

1. Business Proposal Email/Sales Letter
2. Memo
3. Press Release
4. Meeting Agendas/Minutes
5. Response to Customer Complaint Letter



Unit-IV

1. Journalistic report
2. Advertisement
3. Diary Writing
4. Travel Writing
5. Culture Blogging



AN IQAC INITIATIVE

Schedule:



Date & Day	Time	Faculty	Topic	Hours
02/06/2023 (Friday)	10:00 - 11:00 am	Prof. Soma Debray	Paragraph Writing	1
03/06/2023 (Saturday)	9:00 - 11:00 am	Prof. Soma Debray	Descriptive Writing	2
05/06/2023 (Monday)	10:00 - 11:00 am	Prof. Soma Debray	Informal Letter	1
06/06/2023 (Tuesday)	9:00 - 11:00 am	Prof. Soma Debray	Advertisement Diary Writing	2
07/06/2023 (Wednesday)	9:00 - 10:00 am	Prof. Milan Mondal	Letters to bank	1
10/06/2023 (Saturday)	Online	Prof. Milan Mondal	Letters to government offices	1
10/06/2023 (Saturday)	9:00 - 11:00 am	Prof. Soma Debray	Cover Letter First Assignment	2
11/06/2023 (Sunday)	Online	Prof. Milan Mondal	Letters to police station	1
12/06/2023 (Monday)	10:00 - 11:00 am	Prof. Manas Barik	Letter of recommendation	1
13/06/2023 (Tuesday)	10:00 - 11:00 am	Prof. Milan Mondal	Offer Letter	1
14/06/2023 (Wednesday)	9:00 - 11:00 am	Prof. Soma Debray	Response to Offer Letter	2
15/06/2023 (Thursday)	10:00 - 11:00 am	Prof. Samir Kuilya	Leave application	1
16/06/2023 (Friday)	10:00 - 11:00 am	Prof. Milan Mondal	Letter of Resignation	1
17/06/2023 (Saturday)	9:00 - 11:00 am	Prof. Soma Debray	Business Proposal Email/Sales Letter	2
19/06/2023 (Monday)	10:00 - 11:00 am	Prof. Soma Debray	Memo	1
20/06/2023 (Tuesday)	10:00 - 11:00 am	Prof. Manas Barik	Press Release	1
21/06/2023	9:00 - 11:00 am	Prof. Soma Debray	Meeting Agendas/	2

AN IQAC INITIATIVE

(Wednesday)			Minutes Second Assignment	
22/06/2023 (Thursday)	10:00 -11:00 am	Prof. Samir Kuilya	Response to Customer Complaint Letter	1
23/06/2023 (Friday)	10:00 - 11:00 am	Prof. Milan Mondal	Journalistic Writing	1
24/06/2023 (Saturday)	9:00 - 11:00 am	Prof. Samir Kuilya	Notice	2
26/06/2023 (Monday)	10:00 - 11:00 am	Prof. Soma Debray	Travel Writing	1
27/06/2023 (Wednesday)	10:00 - 11:00 am	Prof. Soma Debray	Culture Blogging	1
28/06/2023 (Thursday)	10:00 - 11:00 am	Prof. Milan Mondal	Final Assignment	1
Total Class Hours =				30

Important Information:

- Attendance in all classes is compulsory. Absenteeism, except on reasonable grounds, will be strictly treated.
- Classes will be held primarily in the offline mode.
- Some classes may be held online via Google Meet as per requirement. Prior intimation will be given to students regarding online classes if any.
- Students have to submit all three assignments for securing course completion certificates.
- The classes will be interactive and task-based. Students must bring notebooks for class work.

AN IQAC INITIATIVE



Eligibility:

This AOC is open to students of all semesters of the Department of English. Student who are currently enrolled in any AOC/VAC in other departments are asked not to register for this course to avoid overlap in class hours. Students from other departments may be considered if possible.

Registration:

Students shall register for the course on a 'First Come, First Served' basis by submitting the duly filled-in registration form through the Head of the Department to which the student belongs. The total number of seats is 30.

Course Fee:

Students have to deposit a registration fee of Rs. 100/- (Rupees One hundred only) at the time of enrolment in the course.

Evaluation:



Evaluation will be conducted in the form of three class assignments bearing 50 marks each. The total marks assigned for the assessment of students is 150. Students will be graded based on their cumulative performance in the writing assignments.



Faculty Information:

15/04/2023



Course Coordinator:	Pragna Paramita Mondal Assistant Professor & HOD, Dept. of English IQAC Coordinator Narajole Raj College	
Faculty:	Prof. Soma Debray Associate Professor Dept. of English Narajole Raj College	
Faculty:	Prof. Milan Mondal Assistant Professor Dept. of English Narajole Raj College	
Faculty:	Prof. Manas Barik SACT, Dept. of English, Narajole Raj College	
Faculty:	Prof. Samir Kuilya SACT, Dept. of English, Narajole Raj College	

AN IQAC INITIATIVE

About the Department:

The Department of English of Narajole Raj College began its journey during the glorious inception of this institution in 1966 and has ever since grown in size and in its scope of knowledge dispensation. It happens to be one of the prestigious undergraduate departments of the college with students seeking excellence in the field of higher education progression, research and career outreach. The Department offers UG Honours and General courses and practically caters to all students of the college by virtue of the Compulsory & Elective English courses under the CBCS structure. The Department promotes technology-based learning and pedagogy and regularly conducts seminars, cultural events and spelling bee contests. It publishes the annual literary wall magazine every year to lend creative expression to the voices of its students. Students of the department have immense potential and have proudly sealed achievements in the sphere of sports, culture and academics. The Department formed a Drama Club in 2022 and runs a General English Course at Singaghai Primary School that was adopted by the college last year.



AN IQAC INITIATIVE

About the IQAC:

The Internal Quality Assurance Cell (IQAC) has been conceived by NAAC for the purpose of quality enhancement and sustenance within institutions. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of the college. The Value Added Course (VAC) is an initiative taken by the IQAC of Narajole Raj College and will be administered as a Certificate Course by different academic departments to facilitate skill development among students.



AN IQAC INITIATIVE





Narajole Raj College



(A NAAC Accredited 'B' Grade Govt.-Aided General Degree College)
Narajole:: Paschim Medinipur:: PIN - 721211

Department of English

presents

Value Added Course on General English for Competitive Exams

1st June - 21st June, 2023



Course Coordinator: Pragna Paramita Mondal, HOD, Dept. of
English & IQAC Coordinator, Narajole Raj College

Contact No.: 7044793038

AN IQAC INITIATIVE

Aim of the VAC:

The purpose of the Value Added Courses (VAC) is to impart transferable and life skills to the students. Transferable skills refer to the 'portable skills' of an individual that enable him/her to navigate across different areas of life socially as well as professionally. These courses are aimed at adding value to the learning outcomes of the students and should help them in getting placed after completion of the degree. Sometimes the lack of relevant, industry-specific experience becomes a deterrent for potential candidates seeking employment opportunities. Students can overcome this constraint by demonstrating a considerable range of transferable skills that they have acquired and developed through these VACs. The inclusive and interdisciplinary scope of the VACs allows students from Humanities to opt for Value Added Courses in the Sciences and vice-versa.

About the Course:

English is a prerequisite for everyone trying to be successful in the job market. Be it the public or the private sector, knowledge of English is a must in almost all job situations. The importance of having a good command over English is growing day by day and all competitive tests are thus placing greater emphasis on vocabulary and grammatical aspects of the English language. This course is aimed at honing the English skills of all participants who are planning to appear for competitive exams such as UPSC, WBCS, IBPS/Bank PO, SSC and other government exams. In this 30 hour course students will be introduced to different segments of grammar and vocabulary development.

AN IQAC INITIATIVE

15/11/24



Course Objectives:

- To enable students to prepare for the competitive exams of various kinds especially meant for testing ability in English language.
- To introduce students with the common question types asked in competitive examinations concerning English- grammar, vocabulary, comprehension, and other significant topics.
- To encourage students to appear and prepare for the competitive exams.
- To help the students to overcome the fear about English as a compulsory subject in various competitive exams.



AN IQAC INITIATIVE

Course Outcomes:

- This course will enable students to use the language creatively and professionally.
- It will inculcate the skills of explanation, interpretation and visualization in the students that they can apply in competitive test schedules.
- The course will inspire their self-confidence and improve their capacity to respond to problems in language and communication. This will also enhance their quality of life.
- The course will open up traditional job opportunities for the students as well as help them seek employment in the corporate, government and private sectors.



AN IQAC INITIATIVE

Syllabus:

Unit-I

1. Parts of Speech
2. Tense
3. Prefix-Suffixes
4. Correct use of Prepositions
5. Conjunctions & Pronouns
6. Voice
7. Reported Speech

Unit-II

1. Synonyms and Antonyms
2. Homographs, Homonyms and Homophones
3. One Word substitutions
4. Idioms & Phrases
5. Phrasal Verbs
6. Misspelt words
7. Sentence rearrangement

Unit-III

1. Subject-Verb agreement
2. Error corrections
3. Question Tags & Fillers
4. Cloze test
5. Infinitive & Participle



6. Determiners & Articles
7. Reading comprehension

Unit-IV

1. Simple/Complex/Compound Sentences
2. Degrees of Comparison
3. Be forms/Do forms/ Have Forms
4. Number/Gender
5. Writing Advertisements
6. Report Writing
7. Precis Writing



AN IQAC INITIATIVE

Schedule:

Date & Day	Time	Faculty	Topic
01/06/2023 (Thursday)	8:00 - 9:00 am	Prof. Milan Mondal	1. Parts of Speech
01/06/2023 (Thursday)	9:00 - 10:00 am	Prof. Samir Kuilya	2. Prefix-Suffixes
02/06/2023 (Friday)	9:00 - 10:00 am	Prof. Milan Mondal	3. Tense
03/06/2023 (Saturday)	9:00 - 10:00 am	Prof. Manas Barik	4. Correct use of Prepositions
03/06/2023 (Saturday)	10:00 - 11:00 am	Prof. Samir Kuilya	5. Conjunctions & Pronouns
05/06/2023 (Monday)	9:00 - 10:00 am	Prof. Manas Barik	6. Voice
06/06/2023 (Tuesday)	8:00 - 9:00 am	Prof. Milan Mondal	7. Reported Speech
06/06/2023 (Tuesday)	9:00 - 10:00 am	Prof. Manas Barik	8. Synonyms and Antonyms
07/06/2023 (Wednesday)	8:00 - 9:00 am	Prof. Milan Mondal	9. Homographs, Homonyms and Homophones
07/06/2023 (Wednesday)	9:00 - 10:00 am	Prof. Samir Kuilya	10. One Word substitutions
08/06/2023 (Thursday)	9:00 - 10:00 am	Prof. Samir Kuilya	11. Idioms & Phrases
09/06/2023 (Friday)	8:00 - 9:00 am	Prof. Milan Mondal	12. Phrasal Verbs
09/06/2023 (Friday)	9:00 - 10:00 am	Prof. Milan Mondal	13. Misspelt words
10/06/2023 (Saturday)	9:00 - 10:00 am	Prof. Manas Barik	14. Sentence rearrangement
10/06/2023 (Saturday)	10:00 - 11:00 am	Prof. Samir Kuilya	15. Subject-Verb agreement
12/06/2023 (Monday)	9:00 - 10:00 am	Prof. Manas Barik	16. Error corrections
13/06/2023 (Tuesday)	8:00 - 9:00 am	Prof. Milan Mondal	17. Question Tags & Fillers
13/06/2023 (Tuesday)	9:00 - 10:00 am	Prof. Manas Barik	18. Cloze test
14/06/2023 (Wednesday)	8:00 - 9:00 am	Prof. Milan Mondal	19. Infinitive & Participle
14/06/2023 (Wednesday)	9:00 - 10:00 am	Prof. Samir Kuilya	20. Determiners & Articles
15/06/2023 (Thursday)	8:00 - 9:00 am	Prof. Milan Mondal	21. Reading

AN IQAC INITIATIVE

15/06/2023



			comprehension
15/06/2023 (Thursday)	9:00 - 10:00 am	Prof. Samir Kuilya	22. Simple/Complex/Compound Sentences
16/06/2023 (Friday)	9:00 - 10:00 am	Prof. Milan Mondal	23. Degrees of Comparison
17/06/2023 (Saturday)	9:00 - 10:00 am	Prof. Manas Barik	24. Be forms/Do forms/ Have Forms
17/06/2023 (Saturday)	10:00 - 11:00 am	Prof. Samir Kuilya	25. Number/Gender
19/06/2023 (Monday)	9:00 - 10:00 am	Prof. Manas Barik	26. Writing Advertisements
20/06/2023 (Tuesday)	8:00 -9:00 am	Prof. Milan Mondal	27. Report Writing
20/06/2023 (Tuesday)	9:00 - 10:00 am	Prof. Manas Barik	28. Precis Writing
21/06/2023 (Wednesday)	8:00 -9:00 am	Prof. Milan Mondal	29. Evaluation on Units I & II
21/06/2023 (Wednesday)	9:00 -10:00 am	Prof. Samir Kuilya	30. Evaluation on Units III & IV
Total Class Hours =			30

Important Information:

- Attendance in all classes is compulsory. Absenteeism, except on reasonable grounds, will be strictly treated. Classes will be held primarily in the offline mode.
- The curriculum delivery is based on specific teaching plans.
- Feedback and continuous evaluation will be incorporated as part of classroom teaching.
- There will be aspects of microteaching and peer teaching.
- Some classes may be held online via Google Meet as per requirement. Prior intimation will be given to students regarding online classes if any.
- Students have to appear for the examination at the end of the programme for securing course completion certificates.
- The classes will be interactive and task-based. Students must bring notebooks for class work and carry smart phones for online quizzes.
- This course has a distinct professional approach and students must try to make the most of it through active learning.

AN IQAC INITIATIVE

15/06/2023



Eligibility:

This VAC is open to students of all semesters and all departments. Student who are currently enrolled in any AOC/VAC in other departments are asked not to register for this course to avoid overlap in class hours.

Registration:

Students shall register for the course on a 'First Come, First Served' basis by submitting the duly filled-in registration form through the concerned Head of the Department to which the student belongs. The total number of seats is 30.

Course Fee:

Students have to deposit a registration fee of Rs. 100/- (Rupees One hundred only) at the time of enrolment in the course.

Evaluation:

Evaluation will be conducted in the offline mode at the end of the course. Two tests of 50 marks each will be administered on the last day of the programme. Students will also take five online MCQ quizzes of 20 marks each in the duration of the course and their cumulative performance will be considered for awarding grades at the time of course completion. The total marks assigned for the assessment of students is 200.

The break-up is as follows: 2 Written Tests (50 X 2 = 100 marks) and 5 Online MCQ Quizzes (20 X 5 = 100 marks)

AN IQAC INITIATIVE

19/07/24



Faculty Information:

Course Coordinator:	Pragna Paramita Mondal Assistant Professor & HOD, Dept. of English IQAC Coordinator Narajole Raj College	
Faculty:	Prof. Milan Mondal Assistant Professor Dept. of English Narajole Raj College	
Faculty:	Prof. Manas Barik SACT, Dept. of English, Narajole Raj College	
Faculty:	Prof. Samir Kuilya SACT, Dept. of English, Narajole Raj College	

15/07/24

AN IQAC INITIATIVE



About the Department:

The Department of English of Narajole Raj College began its journey during the glorious inception of this institution in 1966 and has ever since grown in size and in its scope of knowledge dispensation. It happens to be one of the prestigious undergraduate departments of the college with students seeking excellence in the field of higher education progression, research and career outreach. The Department offers UG Honours and General courses and practically caters to all students of the college by virtue of the Compulsory & Elective English courses under the CBCS structure. The Department promotes technology-based learning and pedagogy and regularly conducts seminars, cultural events and spelling bee contests. It publishes the annual literary wall magazine every year to lend creative expression to the voices of its students. Students of the department have immense potential and have proudly sealed achievements in the sphere of sports, culture and academics. The Department formed a Drama Club in 2022 and runs a General English Course at Singaghai Primary School that was adopted by the college last year.



AN IQAC INITIATIVE

15/07/24



About the IQAC:

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AN IQAC INITIATIVE





***SKILL DEVELOPMENT
DEPARTMENT OF PHYSICS
NARAJOLE RAJ COLLEGE***

The institution has initiated Skill Development Practice on –“LED BASED DEVICE PRODUCTION” in 2023 under the supervision of the faculties of Department of Physics. Students are given hands-on training on production and repairing of LED Bulbs under the supervision of potential experts for the promotion of the skill development. Theory and practical classes are arranged regularly for the trainees. The institute provided the certificates to the trainees after the successful completion of the course.

Outcome:

This Innovation Hub and Training for LED based light production and repairing will be very popular in the near future as the institute locates in a rural area as well as local people will be highly benefited from it since the major local people are from financially weaker. Moreover, one of the students started business of LED bulb repairing after successful completion of training.







NARAJOLERAJ COLLEGE

(NAAC Accredited 'B' Grade Govt. Aided College)

NARAJOLE, PASCHIM MEDINIPUR, WESTBENGAL, Pin-721211

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Website: <http://www.narajoleraajcollege.ac.in>



Skill Report: Hands-On In-Laboratory Training for Preparation of Household Chemicals

Introduction: In today's world, where sustainability, safety, and efficiency are paramount concerns, the need for skilled professionals in the field of household chemical production is ever-growing. Our innovative course, "Hands-On In-Laboratory Training for Preparation of Household Chemicals," addresses this demand by providing students with practical skills and knowledge essential for the formulation, production, and testing of household products.

Course Objectives:

- To equip students with a deep understanding of the chemistry behind common household chemicals.
- To instill best practices in safety protocols and handling of chemicals.
- To provide hands-on experience in the preparation and testing of household products.
- To foster an awareness of environmental impact and ethical considerations in chemical production.

Course Structure: The course is structured to combine theoretical knowledge with practical application through laboratory sessions. Topics covered include chemistry fundamentals, safety protocols, regulatory compliance, environmental impact, and ethical considerations. Each session includes hands-on experiments where students learn to prepare various household products under expert guidance.

Innovation: What sets this course apart is its emphasis on experiential learning. By providing students with the opportunity to actively engage in the formulation and testing of household chemicals, we bridge the gap between theory and practice. Furthermore, the course integrates discussions on sustainability and ethical responsibilities, preparing students to be conscientious professionals in the field.

Outcomes: Upon completion of the course, students will:

- Have a comprehensive understanding of the chemistry and production processes of household chemicals.
- Demonstrate proficiency in safety protocols and best practices for handling chemicals.
- Be capable of developing and testing their own household chemical products.
- Possess a heightened awareness of environmental impact and ethical considerations in chemical production.





15/07/24



NARAJOLERAJ COLLEGE

(NAAC Accredited 'B' Grade Govt. Aided College)
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Phone and Fax: +91-9933881131; E-mail: narajoleracollege@rediffmail.com
Website: <http://www.narajoleraajcollege.ac.in>

Conclusion: "Hands-On In-Laboratory Training for Preparation of Household Chemicals" is an innovative skill-building course that equips students with the practical knowledge and expertise required for a career in household chemical production. By fostering a hands-on learning environment and emphasizing sustainability and ethical considerations, the course prepares students to meet the challenges of the industry while contributing to a safer, more sustainable future.



Coordinators Innovation Hub

Nandita Bhakat Tapanendu Kamilya

Baisali Gula. SK Mohammad Aziz



Add on Course on ‘FORTRAN Programming and ORIGINLAB for Scientific Data Analysis

Organized by
Department of Physics

Course Co-ordinators:

Dr. Arif Iqbal Mallick, Assistant Professor & Head, Dept. of Physics
&

Dr. Avradip Pradhan, Assistant Professor, Dept. of Physics

Period: 13-06-2023 to 30-06-2024

Objectives:

1. To learn basic programming to compile and analyze scientific data.
2. To work with arrays for scientific computing.
3. To learn scientific data plotting and visualizing it.
4. To get a rough idea about analysis from data plotting

Outcomes:

1. Development in the students' abilities to analyze scientific data.
2. Ability to learn two new scientific tools which will be useful in future.

Duration:

Total course duration of 30 hours and was scheduled from 13th June 2023 to 30th June, 2023. The classes were both theory and practical based.



List of Students:

Sl. No.	Name of the Student	Department	Semester
1.	Debansu Dandapat	Physics	IV
2.	Nayan Pandit	Physics	II
3.	Krishnaprasad Sardar	Mathematics	II
4.	Pabitra Goswami	Mathematics	II
5.	Somnath Panja	Mathematics	II

Few Pictures:



15/07/24
KISMAT NARAJOLE
Medinipur Ln, Kismat Narajole, Narajole, West Bengal 721232, India





Kismat Narajole, West Bengal, India

HJ84+G3P, Medinipur Ln, Kismat Narajole, Narajole, West Bengal 721232, India

Lat 22.566372°

Long 87.604416°

13/06/23 02:18 PM GMT +05:30

Google



Kismat Narajole, West Bengal, India

HJ84+G3P, Medinipur Ln, Kismat Narajole, Narajole, West Bengal 721232, India

Lat 22.566372°

Long 87.604416°

13/06/23 02:23 PM GMT +05:30

Google

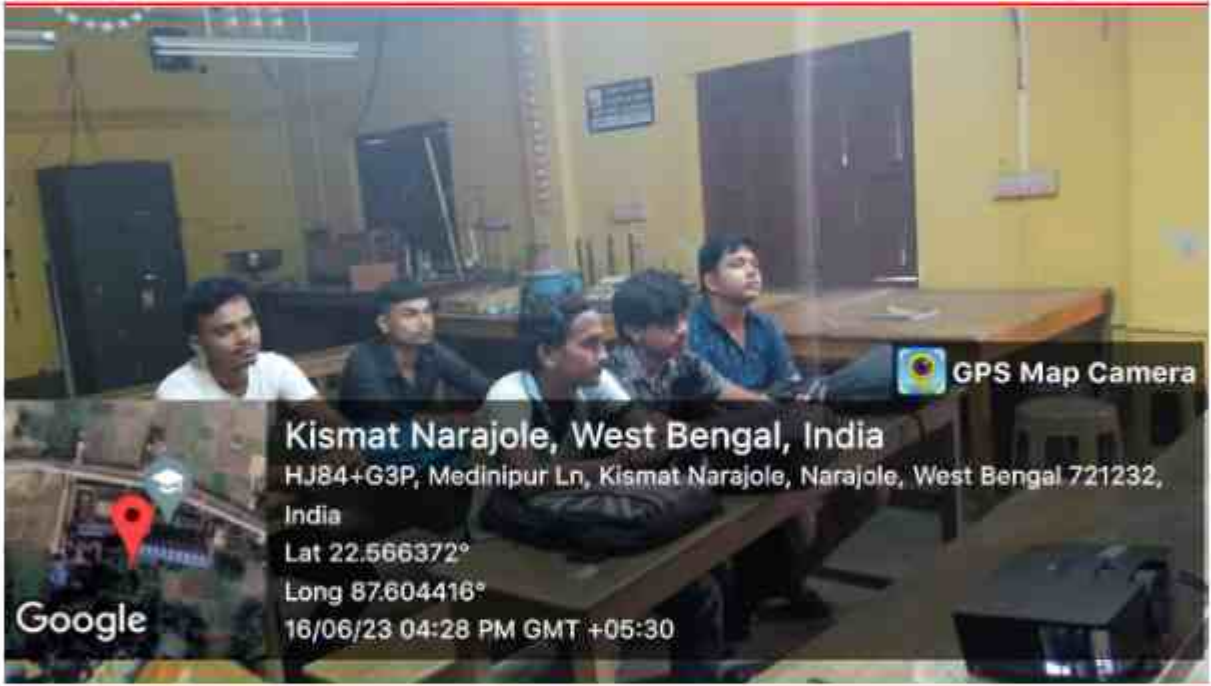
Handwritten signature and date: 15/07/23
NARAJOLE RAJ COLLEGE
Medinipur - 721232





15/07/24

MAHARAJA



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ESTD 24
KISMAT NARAJOLE
Medinipur



Few Attendance Sheets:

FORTRAN PROGRAMING & ORIGINLAB FOR SCIENTIFIC DATA ANALYSIS

An Add-On Course (AOC) offered by Dept. of Physics, Narajole Raj College.

Class Attendance

Date: 13/06/2023, Time: 4:00 pm - 5:00 pm

SL No.	Form No.	Name	Signature
1		DEBANSHU DANDAPAT	Debanshu Dandapat
2		NAYAN PANDIT	Nayan Pandit
3		KRISHNAPRASAD SARDAR	Krishnaprasad Sardar
4		PABITRA GHOSWAMI	Pabitra Ghoswami
5		SOMNATH PANJA	Somnath Panja
6			
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13			
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15			

Signature of the Teacher

FORTRAN PROGRAMING & ORIGINLAB FOR SCIENTIFIC DATA ANALYSIS

An Add-On Course (AOC) offered by Dept. of Physics, Narajole Raj College

Class Attendance

Date: 16/06/2023 Time: 4:00 pm - 5:00 pm

SL No.	Form No.	Name	Signature
1		DEBANSHU DANDAPAT	Debanshu Dandapat
2		NAYAN PANDIT	Nayan Pandit
3		KRISHNAPRASAD SARDAR	Krishnaprasad Sardar
4		PABITRA GHOSWAMI	Pabitra Ghoswami
5		SOMNATH PANJA	Somnath Panja
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15/07/24
NARAJOLE RAJ COLLEGE
PHYSICS DEPARTMENT



Signature of the Teacher

FORTRAN PROGRAMING & ORIGINLAB FOR SCIENTIFIC DATA ANALYSIS

An Add-On Course (AOC) offered by Dept. of Physics, Narajole Raj College

Class Attendance

Date: 27/06/2023, Time: 4:00 pm - 5:00 pm

Sl. No.	Form No.	Name	Signature
1		DEBANSU DANDAPAT	DebanSU Dandapat
2		NAYAN PANDIT	Nayan Pandit
3		KRISHNAPRASAD SARDAR	Krishnaprasad Sardar
4		FABITRA GOSWAMI	Fabitra Goswami
5		SOMNATH PANJA	Somnath Panja
6			
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ALB

Signature of the Teacher

FORTRAN PROGRAMING & ORIGINLAB FOR SCIENTIFIC DATA ANALYSIS

An Add-On Course (AOC) offered by Dept. of Physics, Narajole Raj College

Class Attendance

Date: 29/06/2023, Time: 7:00 pm - 9:00 pm

Sl. No.	Form No.	Name	Signature
1		DEBANSU DANDAPAT	DebanSU Dandapat
2		NAYAN PANDIT	Nayan Pandit
3		KRISHNAPRASAD SARDAR	Krishnaprasad Sardar
4		FABITRA GOSWAMI	Fabitra Goswami
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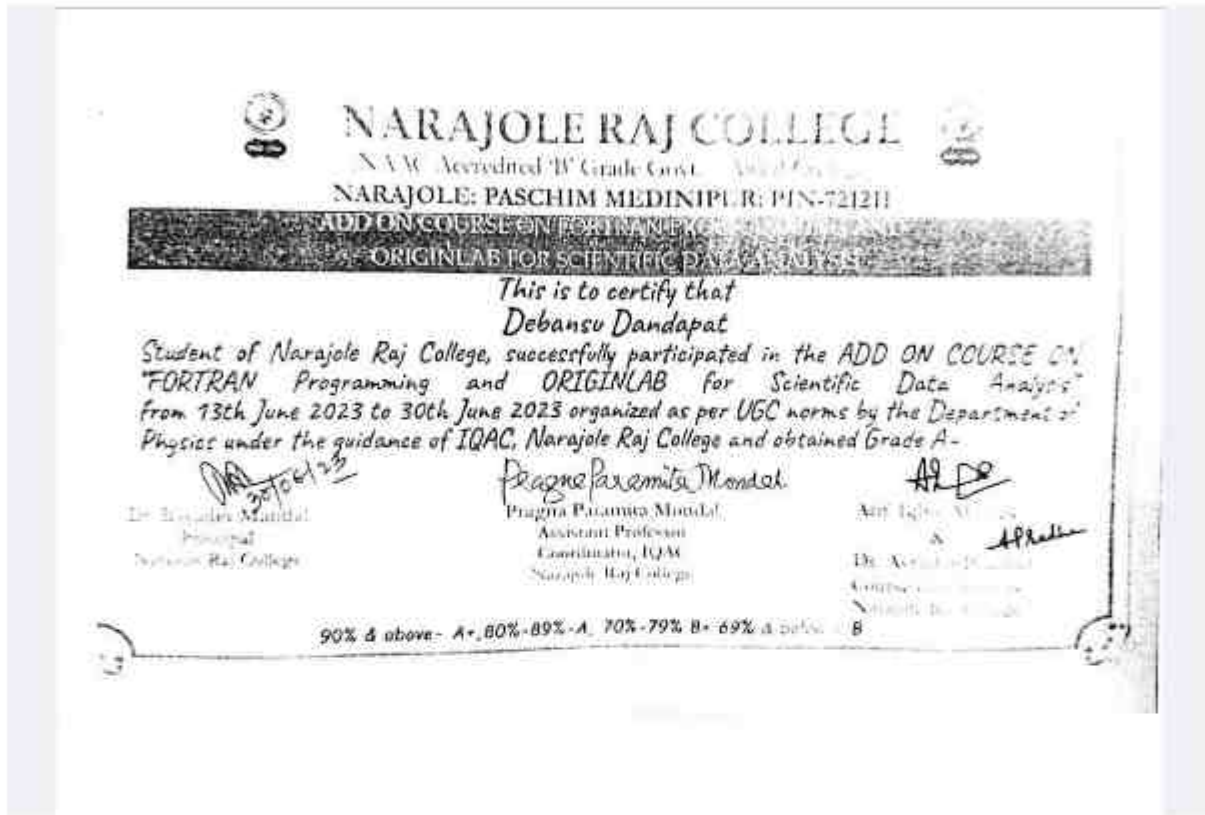
DR
15/07/24



A Pradhan

Signature of the Teacher

Certificate:



NARAJOLE RAJ COLLEGE
(NAAC Accredited B grade)
NARAJOLE: PASCHIM MEDINIPUR: PIN-721211
DEPARTMENT OF BOTANY

Departmental Meeting

Notice

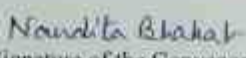
Dated: 26.07.2022

Notice is hereby issued that a meeting of the Department of Botany will be held on 29.07.2022 (Friday) at 4.00 PM. Please make it convenient to join the meeting.

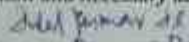
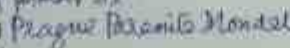

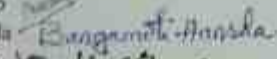



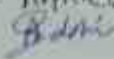
Agenda:

1. To approve the syllabus by the BOS headed by the external expert Dr. Dulal Kumar De;
2. To approve the name of the course coordinator;
3. To discuss on the course implementation strategies;
4. To discuss regarding the offering of the course in a particular year/ semester;
5. To discuss regarding the seat capacity;
6. To discuss on the registration fee of the students for the proposed course;
7. To discuss on the budget estimate;
8. To discuss on the certification to the candidates;
9. To welcome any new proposal or suggestion from the BOS.
10. Miscellaneous if any, with the permission of the chair.


Signature of the Vice-Principal
Dr. Ranajit Kumar Khajuria


Signature of the Convenor
Prof. Nandita Bhakat

Copy forwarded for information and necessary action to:

1. Dr. Dulal Kumar De 
2. Prof. Pragya Paramita Mondal 
3. Dr. Uttam Kumar Karp 
4. Prof. Bangamati Hansda 
5. Dr. Pralwi Ghosh 
6. Prof. Sanjay Kumar Datta 
7. Dr. Arpita Chakraborty 
8. Sk. Ashiruddin 

N.B. Necessary link to join the meeting will be provided in due course via What's App Message to all the members including the external expert of the BOS.

1. Ranajit Kumar Khaliu
2. Nandini Akhat
3. Rangamati Das
4. Ritika Wase
5. Pragya Paramita Mondal

6. S. K. Asthwardhi
7. Kshila Chatterjee
8. Anamika Das
9. Abhijit Das

Proceedings of the meeting of the Departmental Committee (Botany) held on
28.07.2022 (Friday) in the Department Staff Room

The meeting was chaired by Dr. Ranajit Kumar Khaliu, The Vice Principal of the College and Chairman of the Concerned Departmental Committee. The meeting was held via a hybrid mode with certain members present in the college and others joining online through Google Meet Video <https://meet.google.com/mek-ydkg-sng> to discuss the following agenda. Detailed discussion took place on the noted agenda and the following resolutions were adopted:

1. Resolved that the syllabus submitted at the IQAC by the department of Botany, Narajole Raj College is duly approved by the BCS headed by Dr. Dilal Kumar De and constituted and chaired by the Vice Principal, Dr. Ranajit Kumar Khaliu. It is also resolved that the Syllabus Approval letter attested by Dr. Dilal Kumar De and forwarded by Dr. Ranajit Kumar Khaliu, Vice Principal, and Prof. Pragya Paramita Mondal, IQAC Coordinator, Narajole Raj College, will be placed before the Governing Body of the college in its next meeting.
2. Resolved that Prof. Sanjay Kumar Datta will act as the course coordinator of the Innovative Hub on Techniques for Mushroom Cultivation in the academic session 2022. He will be supported in this role by the other members of the department.
3. Resolved that the Innovative Hub to be administered will contain 30 hours of instruction. Out of which 18 hours will be theory classes and 12 hours practical classes. After completion of the syllabus an assessment of 50 marks will be conducted comprising written based of 30 marks and assignment based of 20 marks. All these strategies will be explained to the students in details in the orientation session at the beginning of the course.
4. Resolved that the Innovative Hub on Techniques for Mushroom Cultivation will be offered on the yearly basis to the students.
5. It is resolved that the seat capacity for the course is fixed to 35. All the students of the department of Botany and any other willing student can register themselves in the proposed course.
6. Resolved that the rationale of exacting a registration fee of Rs. One hundred from students for the entire duration of the course was considered in view of the modalities of administering the concerned syllabus and was unanimously found to be acceptable.
7. Resolved that the aspects related to the financing of the course were discussed and the liabilities were clearly stated and understood. The budget estimate is stated and approved by the BCS under the following heads:
TA/DA of External Expert- Rs. 3000
Mushrooms bed preparation- Rs. 1000



Proceedings of the meeting of the Departmental Committee (Botany) held on
29.07.2022 (Friday) in the Department Staff Room

Mushroom farm visit- Rs. 1000
Certificate Print- Rs. 450
Photo for documentation- Rs.200

8. Resolved that a Certificate of Course Completion, recording the grade that the student received as per the evaluation results, would be awarded at the end of the course by the Narajole Raj College.
9. Resolved that the recommendations of Dr. Dulal Kumar De, the External Expert of the BOS regarding inviting an external expert for the purpose of providing guidance regarding mushroom cultivation was accepted with glad by the other members of the BOS. The departmental teachers expressed their willingness to start the Innovative Hub in any suitable room of the old campus building of Narajole Raj College and this proposal was regarded favourably.
10. With no other issues left, the meeting ended with paying reciprocal thanks to the chair.

Ranajit
CHAIRMAN, Principal
(DR. RANAJIT KUMAR KHALUA)
P.O. - Narajole
Dist. - Paschim Medinipur, 721211





NARAJOLE RAJ COLLEGE

AFFILIATED BY VIDYASAGAR UNIVERSITY
ACCREDITED GRADE B BY NAAC

15/07/22



A CERTIFICATE COURSE ON

TECHNIQUES FOR MUSHROOM CULTIVATION

ORGANIZED BY THE DEPARTMENT OF BOTANY
NARAJOLE RAJ COLLEGE



Course coordinator:

PROF. SANJAY KUMAR DATTA

Tentative Time of The Course:

December, 2022



AN IQAC INITIATIVE

OBJECTIVES OF THE COURSE:

- *To identify the edible and poisonous mushroom ;*
- *To learn about the importance of mushroom cultivation ;*
- *To know about the various techniques of mushroom cultivation ;*
- *To gather knowledge about the various long term and short term storage techniques ;*
- *To know about the nutritional values of the mushroom ;*
- *To learn about the various recipes made out of mushrooms.*

SYLLABUS:

1. Introduction
2. Importance of mushroom culture
3. Edible and poisonous mushrooms
4. Techniques of mushroom cultivation
 - Thatched house
 - Pure culture
 - Spawn production
 - Mushroom bed preparation
 - Compost preparation
5. Storage
 - Short term and long term storage
6. Nutritional value of mushroom
7. Food preparation



SCHEDULE:

Total course duration of 30 hours will be scheduled from December 2022. The classes will be both theory and practical based.

ELIGIBILITY:

The applicant must be the student of this college, opened for every department and all semesters.

REGISTRATION/ APPLICATION PROCEDURE:

The application is to be done through the departmental Heads. Not more than 30 candidates will be selected for the above schedule course from the entire college.

FEE PAYMENT: Rs100

EVALUATION:

After the completion of the course a timely evaluation will be conducted which will be theoretical based or non-theoretical based.

CERTIFICATION:

Certification will be done to the candidates who will go through the evaluation procedure. The certificate will contain the grades which will signify their level of interest and performance in the proposed course.

ABOUT THE DEPARTMENT OF BOTANY:

The department of Botany is one of the finest departments of Narajole Raj College. The course was introduced in the year 1991 as a pass course subject. In the year 2002 it introduced its first honours courses. The students and the teachers work very hard for the overall development of the department. Every year the students pass the Vidyasagar University examination with flying colours.

ABOUT THE IQAC:

The Internal Quality Assurance Cell (IQAC) has been conceived by NAAC for the purpose of quality enhancement and sustenance within institutions. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of the college. The Innovative Hub (IH) is an initiative taken by the IQAC of Narajole Raj College and will be administered as a Certificate Course by different academic departments to facilitate skill development among student

15/07/20



TEACHING FACULTIES OF THE COURSE

	<ul style="list-style-type: none">• Professor Sanjay Kumar Dutta, State Aided College Teacher, Dept of Botany, Teaching experience 25 yrs mail id: sanjay@narajoleraajcollege.ac.in
	<ul style="list-style-type: none">• Professor Nandita Bhakat, Assistant Professor & HOD Dept of Botany, Teaching experience 6yrs mail id: nandita@narajoleraajcollege.ac.in
	<ul style="list-style-type: none">• Professor Bangamoti Hansda, Assistant Professor, Dept of Botany, Teaching experience 2 yrs mail id: bangamoti@narajoleraajcollege.ac.in
	<ul style="list-style-type: none">• Dr. Arpita Chakraborty, State Aided College Teacher, Dept of Botany, Teaching experience 12 yrs mail id: arpita@narajoleraajcollege.ac.in
	<ul style="list-style-type: none">• Dr Uttam Kumar Kanp, Assistant Professor, Dept of Botany, Teaching experience 12 yrs. mail id: uttam@narajoleraajcollege.ac.in
 	<ul style="list-style-type: none">• Dr Prithwi Ghosh, Assistant Professor, Dept of Botany, Teaching experience 2 yrs mail id: prithwi@narajoleraajcollege.ac.in



NARAJOLE RAJ COLLEGE



NAAC Accredited 'B' Grade College

ESTD.- 1966

Narajole ⊕ Paschim Medinipur

P.O.- NARAJOLE
DIST.- PASCHIM MEDINIPUR
PIN CODE- 721211
WEST BENGAL

Email: narajolerajcollege@rediffmail.com
Ph.- 03225-259755

Memo No..... NRC/114/Adm/2022

Date..... 28.07.2022

From
The Vice Principal
Narajole Raj College
Narajole

To
Dr. Dulal Dey
Associate Professor
Midnapore College (Autonomous)
Midnapore.

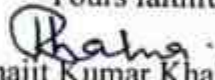
Sub: Invitation to join the BOS as External Expert for approving the syllabus of Certificate Course for Promotion of Innovation Ecosystem on Techniques for Mushroom Cultivation

Sir,

This is to kindly inform you that the Department of Botany, Narajole Raj College, under the guidance of the IQAC, has submitted its proposal for offering a Certificate Course for Promotion of Innovation Ecosystem on Techniques for Mushroom Cultivation in the next academic session. The syllabus developed by the Dept. of Botany has to be placed before the Board of Studies for approval and ratification. I would, therefore, humbly request you to join the BOS as the External Expert at the meeting to be held on 29.07. 2022 at 4 p.m. at Narajole Raj College and thereby facilitate the approval of the course.

I thank you for your kind cooperation.

Yours faithfully,


(Dr. Ranajit Kumar Khalua)
Vice Principal

Vice-Principal
Narajole Raj College
P.O.- Narajole
Dist.- Paschim Medinipur, 721211



Innovative Hub on Techniques of Mushroom Cultivation [03.12.22- 16.06.23]		Total students:30	
SL. NO.	NAME	DEPARTMENT	SEMESTER
1	Rajkuman Maity	Botany	V
2	Md. Asif Hossen	Botany	V
3	Najima Khatun	Botany	V
4	Riya Das	Botany	V
5	Sabina Yasmin	Botany	V
6	Samapti Dolai	Botany	V
7	Santa Jana	Botany	V
8	Sathi Jana	Botany	V
9	Sathi Maji	Botany	V
10	Shreya Ghosal	Botany	V
11	Sk. Eheteram Murshed	Botany	V
12	Swagata Ballav	Botany	V
13	Pujashree Kundu	Botany	V
14	Swadhin Sau	Botany	V
15	Arnab Mishra	Botany	III
16	Mandira Dolai	Botany	III
17	Sourav Mahish	Botany	III
18	Titli Chakraborty	Botany	III
19	Malabika Mal	Botany	I
20	Samhita Maity	Botany	I
21	Anindya Dolai	Botany	I
22	Sima Dasthakur	Botany	I
23	Suvojit Chatat	Botany	I
24	Arabinda Das	Botany	I
25	Samapti Mallick	Botany	I
26	Soumen Ghosh	Botany	I
27	Krishna Maity	Botany	I
28	Rajesh Bhunia	Botany	I
29	Wasim Mallick	Botany	I
30	Rina Koley	Botany	I

15/07/20

15/07/20





Form No.: BT/NE 01/22/5



NARAJOLE RAJ COLLEGE
(NAAC Accredited B Grade Government Aided College)
NARAJOLE: PASCHIM MEDINIPUR: PIN-721211

Certificate Course for Promotion of Innovation Ecosystem on "Techniques for Mushroom Cultivation"

**REGISTRATION FORM OF CERTIFICATE COURSE FOR PROMOTION OF
INNOVATION ECOSYSTEM ON "TECHNIQUES FOR MUSHROOM CULTIVATION"**

Offered by the Dept. of Botany, under the guidance of IQAC, Narajole Raj College

NAME:	KRISHNA MAITI	 J E I
SEMESTER:	1Sem	
COURSE:	Mushroom Cultivation	
DEPARTMENT:	Botany	
SEX:	Female	
CASTE:	Gen	
PH/VH:	NO	
ADDRESS:	VILL+PH - Pakuria	
WHATSAPP NUMBER:	6296 05 9269	
MOBILE NUMBER:	6296967416	
EMAIL-ID:	Krishna maiti 762@gmail.com	
REASON/S FOR JOINING THE COURSE:		
SIGNATURE:	Krishna Maiti	
SIGNATURE OF HOD:	<u>Audita</u>	

15/01/24

Prague Paramita Mondel
Signature of the IQAC
Coordinator
CO-ORDINATOR,
I Q A C
NARAJOLE RAJ COLLEGE
NARAJOLE, PASCHIM MEDINIPUR

[Signature]
Signature of the
Course Coordinator

[Signature]
Signature of the
Vice Principal
Vice-Principal
Narajole Raj College
P.O.- Narajole
Dist.- Paschim medinipur, 721211





1st Sem
Total - 11

Form No.: BTINE01/22/1



NARAJOLE RAJ COLLEGE

(NAAC Accredited B Grade Government Aided College)
NARAJOLE: PASCHIM MEDINIPUR: PIN-721211

Certificate Course for Promotion of Innovation Ecosystem on "Techniques for Mushroom Cultivation"

REGISTRATION FORM OF CERTIFICATE COURSE FOR PROMOTION OF INNOVATION ECOSYSTEM ON "TECHNIQUES FOR MUSHROOM CULTIVATION"

Offered by the Dept. of Botany, under the guidance of IQAC, Narajole Raj College

NAME:	ARIABINDA DAS	
SEMESTER:	1 Sem	
COURSE:	Mushroom cultivation	
DEPARTMENT:	Botany	
SEX:	Male	
CASTE:	Gen.	
PH/VH:	No	
ADDRESS:	Herinarnyanpur, Malighati	
WHATSAPP NUMBER:	9609 118729	
MOBILE NUMBER:	9609 118729	
EMAIL-ID:	ariabinda.das245@gmail.com.	
REASON/S FOR JOINING THE COURSE:		
SIGNATURE:	Ariabinda Das	
SIGNATURE OF HOD:		

Pragne Paramita Mondal
Signature of the IQAC
Coordinator
IQAC
NARAJOLE RAJ COLLEGE
NARAJOLE, PASCHIM MEDINIPUR

Jati
Signature of the
Course Coordinator

Pragny
Signature of the
Vice Principal
Vice-Principal
Narajole Raj College
P.O. - Narajole
Dist. - Paschim Medinipur, 721211



Syllabus

InnovativeHub: Techniques for Mushroom Cultivation

1. Introduction

2. Importance of mushroom culture

3. Edible and poisonous mushrooms

4. Techniques of mushroom cultivation

- Thatched house
- Mushroom bed preparation
- Compost preparation

5. Storage

- Short term and long term storage

6. Nutritional value of mushroom

7. Food preparation

Handwritten signature or initials.




Vice-Principal
Nanjole Raj College
P.O. Nanjole
Dist. Chittoor, Andhra Pradesh 522 211

Subal Kumar De

Pragna Passemite Mondal

CLASS SCHEDULE OF INH ON MUSHROOM CULTIVATION

Sl.No.	Topics	Date	Theory (hrs)	Practical (hrs)	Teachers
1	Introduction	5.12.22	1		SKD
2	Importance of mushroom culture	6.12.22	1		BH
3	Edible and poisonous mushrooms	7.12.22	1		NB
4	Techniques of mushroom cultivation	8.12.22	1	4 (14.12.22)	NB
	a) Infrastructure	8.12.22	1		NB
	b) Thatch house	9.12.22	1		SKD
	e) Mushroom bed preparation	10.12.22	1		UKK
	f) Compost preparation				
5	Storage				
	a) Short term	12.12.22	1		UKK
	b) long term	13.12.22	1		PG
6	Nutritional value of mushroom	14.12.22	1		AC
7	Food preparation	14.12.22	1	9 (16.12.22)	SKD
8	Research centres	15.12.22	1		UKK
9	Cost benefit ratio	15.12.22	1		PG
10	Marketing	16.12.22	1		NB
11	Class assignment	17.12.22	1		BH
12	Class assignment	19.12.22	1		BH
13	Class assignment	20.12.22	1		PG
14	Class assignment	21.12.22	1		AC

Venue: Botany classroom

Time: Theory: 4-5 PM; Practical: TBD



Revised routine of practical classes

for

Innovative Hub (IH) on The Techniques of Mushroom Cultivation

The practical classes are scheduled on the following dates:

1. Excursion at Bhadutala High School-1.3.23
2. Hands on experience on the different techniques and steps for mushroom cultivation-11.7.23, 28.7.23, 31.7.23

Apart from these aforementioned dates, students are also directed to take regular care of the mushroom beds and perform harvesting with gentle care.

15/7/23



Hande

Munshi

Sanjay K. Patil

Rudra



NARAJOLE RAJ COLLEGE

(NAAC Accredited 'B' Grade Govt. Aided College)

NARAJOLE, PASCHIM MEDINIPUR, WEST BENGAL, Pin-721211

Phone and Fax: +91- 9933881131; E-mail: narajoleracollege@rediffmail.com

Website: <http://www.narajolerajcollege.ac.in>



Innovative Hub on Techniques for Mushroom Cultivation

Organized by Department of Botany

In collaboration with

IQAC, Narajole Raj College

Duration of the Programme: 3.12.2022 - 16.06.2023

The Department of Botany of Narajole Raj College hosted an Innovative hub on Techniques of Mushroom Cultivation. The course ran for a duration from 3.12.2022 - 16.06.2023. The course's classes were conducted by the departmental teachers. For the course, 30 hours of direct and indirect instruction period were allocated. Lectures, field trips, and hands-on or practical experiences were among the educational modalities used. Following the classes, assessments were given to the students through both theoretical and practical methods. After putting the students through a reasonable evaluation process, they received certificates of course completion with appropriate grades.

Necessity of the Innovation hub:

The innovation hub provided physical space that brought together the students to nurture their ideas into the mushroom industry and the various mushroom products. The innovation hub helped to keep focus on the businesses related to mushroom and enabled them to come up with fresh ideas, test them, and find the best, most valuable innovation ideas.

Resource Person on the Inauguration Day:

Dr. Dulal Kumar De, Associate Professor and PG Co-Ordinator, Dept. Of Botany, Midnapore College (Autonomous).

No of Enrolled students: 30

All the 30 enrolled students have qualified the evaluation process with flying colours.

Outcomes: The purpose of the innovation hub to generate the confidence of self-employment among the students was achieved at its fullest. Through this course, the students learnt the various steps, procedures, duration of the mushroom bed preparation, harvesting of the mushroom from its bed and the precautions that should be taken during mushroom cultivation. They also gained knowledge about the raw marketing of the mushroom production after proper packaging. Keeping in mind the growing demand of mushroom as an important source of vegetarian protein, the recipes of the various edible and delicious mushroom products were also taught to them so that they can also plan for a startup by making use of the knowledge.

15/07/23





15/07/22



DR
15/07/24
[Circular stamp]



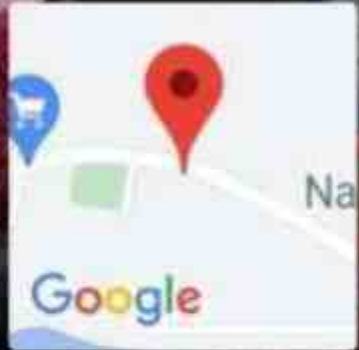


15/07/24





GPS Map Camera



Kismat Narajole, West Bengal, India
HJ83+QR3, Kismat Narajole, West Bengal 721232, India
Lat 22.566618°
Long 87.604503°
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GPS Map Camera

Kismat Narajole, West Bengal, India
HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole, West Bengal 721232, India
Lat 22.56664°
Long 87.604388°
06/12/22 03:34 PM GMT +05:30



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Circular official stamp of Kismat Narajole, West Bengal, India, established in 1988.



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15/12/22
NARAJOL COLLEGE
NARAJOL, WEST BENGAL





 **GPS Map Camera**

Kismat Narajole, West Bengal, India

HJ83+RHR, Keshpur-Daspur Rd, Kismat Narajole, Narajole, West Bengal 721232, India

Lat 22.566453°

Long 87.60441°

31/07/23 01:23 PM GMT +05:30

Google

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15/07/23





NARAJOLE RAJ COLLEGE

(NAAC Accredited 'B' Grade Government-Aided College)
Narajole :: Paschim Medinipur :: Pin- 721211



Innovative Hub on Techniques for Mushroom Cultivation

This is to Certify that

Mr./Miss/Mrs. *Titli Chakraborty*.....

Student of *Botany*.....^{III}..... Semester successfully participated
in the **Innovative Hub on Techniques for Mushroom Cultivation**

from 3rd December 2022 to 16th June 2023

organized by the Department of Botany, under the guidance of IQAC, Narajole Raj College
(Narajole, Paschim Medinipur) and obtained Grade *A*.....

Larjay Kr. Datta
Course Co-ordinator

Pragya Paremita Mondal
IQAC Co-ordinator

Rahma
Vice-Principal

[Signature]
Principal

Note: The grade should be as follows: A+ : 85 percent and above | A : 70 percent to less than or equal to 84 percent |
B : 60 percent to less than or equal to 69 percent | C : 50 percent to less than or equal to 59 percent |

[Signature]
15/07/22





NARAJOLE RAJ COLLEGE

(NAAC Accredited B Grade Govt. – Aided College)

NARAJOLE: PASCHIM MEDINIPUR; PIN-721211

CONSTITUTION OF YOGA CENTRE

(w.e.f. July, 2022_ June,23)

- Dr. Basudev Mandal. – Principal and Chaiman, Yoga Centre.
- Dr. Bholanath Mahato. – Assistant Professor, Dept. of Philosophy, Convenor of this Yoga Centre.
- Dr. Atanu Nanda. - Assistant Professor, Dept. of Physical Education as Member.
- Prof. Nandita Bhakat - Assistant Professor, Dept. of Botany as Member.
- Prof. Partha Kumar Manna. –State Aided College Teacher ,Dept. of Physical Education as Member.
- Prof. Singray Tudu. - Assistant Professor, Dept. of Philosophy as Member.
- Dr. Rabindranath Maity. –State Aided College Teacher, Dept. of Sanskrit as Member.
- Dr. Uttam Kumar Singha – State Aided College Teacher ,Dept. of Sanskrit as Member.
- Prof. Bilas Samanta. –State Aided College Teacher ,Dept. of History as Member.
- Prof. Prasenjit Senapati. –State Aided College Teacher ,Dept. of Political Science as Member.
- Prof. Supen Sarkar. - Assistant Professor, Dept. of Political Science as Member.
- Dr. Sukamal Maity. – State Aided College Teacher ,Dept. of Geography as Member.
- Prof. Tumpa Jana. - Assistant Professor, Dept. of Sanskrit as Member.

- **A Value – added Course on Yoga & Meditation** : This Value – added Course on Yoga & Meditation is carried out through Offline Mode by the Yoga Centre, which valedictory session was 1st Feb 2023 of the Narajole Raj College .



- **Student Enrolment:** Fifty students (50) were enrolled. In this context it is good to state that The Physical Education Foundation of India (PEFI) , West Bengal Chapter extends its collaboration with the Yoga Centre , Narajole Raj College in the academic session 2022-2023.
- **Syllabus of VAC on Yoga and Meditation:** A Syllabus was assigned to them. The classes of this course were taken from 12.07.2023 for six months through offline mode in two places i. e Vidhyasagar Bidyalaya and Mahamaya Prathamik Vidyalaya, Dubrajpur ,Paschim Medinipur.
- **International Yoga Day Celebration:** This yoga center celebrates International Yoga Day every year. The aim of this yoga center is how to develop a sense of awareness among the students and awaken their inner strength through various yoga, pranayama and meditation practices. As a result, they can easily move forward in life with renewed vigor keeping the mind stress-free and the body disease-free. This yoga center is serving in various ways for the new extension committee. For now, two schools have been adopted besides the college, where children are taught yoga pranayama and meditation every week. So that they can be quite helpful in their personality development along with studies.

Details of the experts / Yoga Trainers:

Dr. Bholanath Mahato.

Designation: Assistant Professor.(Philosophy)

Qualification: M.A. Ph .D in Philosophy.

Professional qualification: The Art of Living Teacher.

Other qualification: UGC-NET.

Prof.Nandita Bhakat.

Designation: Assistant Professor.(Botany)

Qualification: M.Sc. in Botany.

Professional qualification: B.Ed.

Other qualification: W.B.SET.

Dr. Atanu Nanda.

Designation: Assistant Professor.(Physical Education)

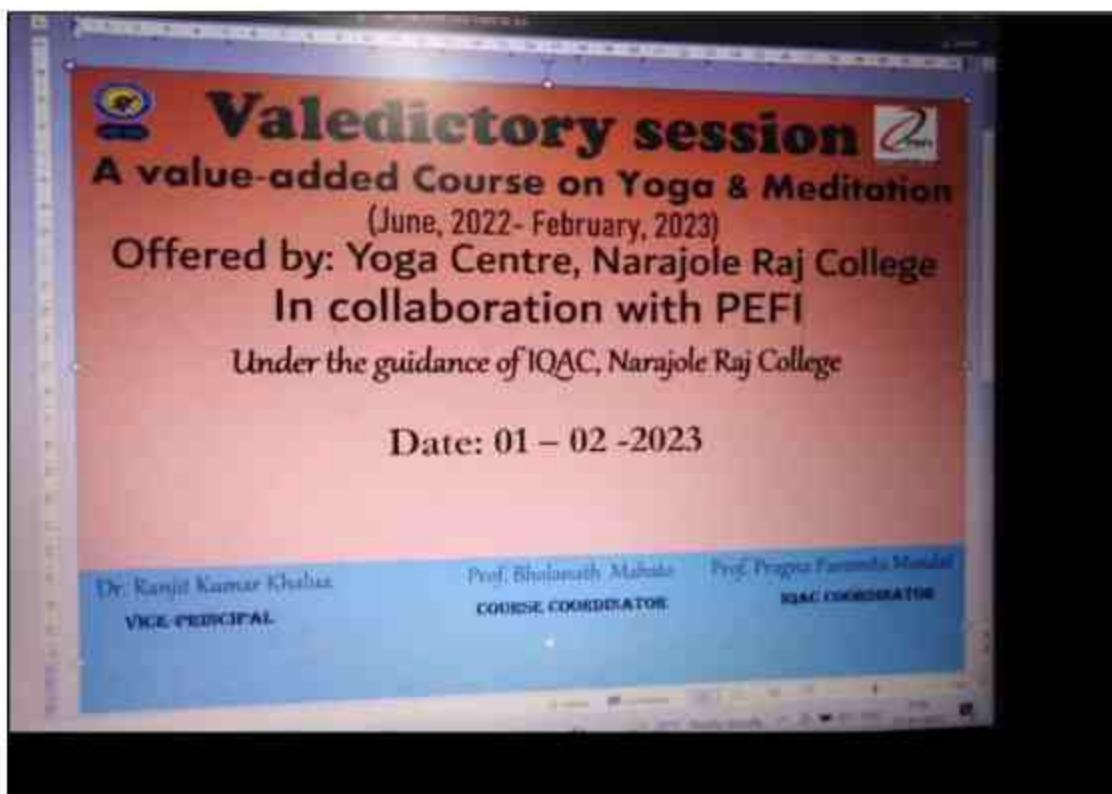
Qualification: M.A. , Ph.D.

Other qualification: Short term Course in Yoga.



Learning Outcome & necessity of the course:

- Students can easily learn different types of Yoga, Meditation and Pranayama.
 - *To culture a habit of regular Yoga and Meditation practice.
 - *To increase the body flexibility as well as mental peace.
 - *To make the students aware towards the benefits of Yoga and Meditation.
 - Right way to think for something or someone.
 - *How to be motivated by one's own self.
 - How to remove the pessimistic aspects of life.
 - How to utilize the present moment.
- Dr. Bholanath Mahato.
 - Convenor, Yoga Centre.
 - Narajole Raj College.





GPS Map Camera

Kismat Narajole, West Bengal, India
HJ84+G3P, Medinipur Ln, Kismat Narajole, West Bengal
721232, India
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Long 87.604507°
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Google

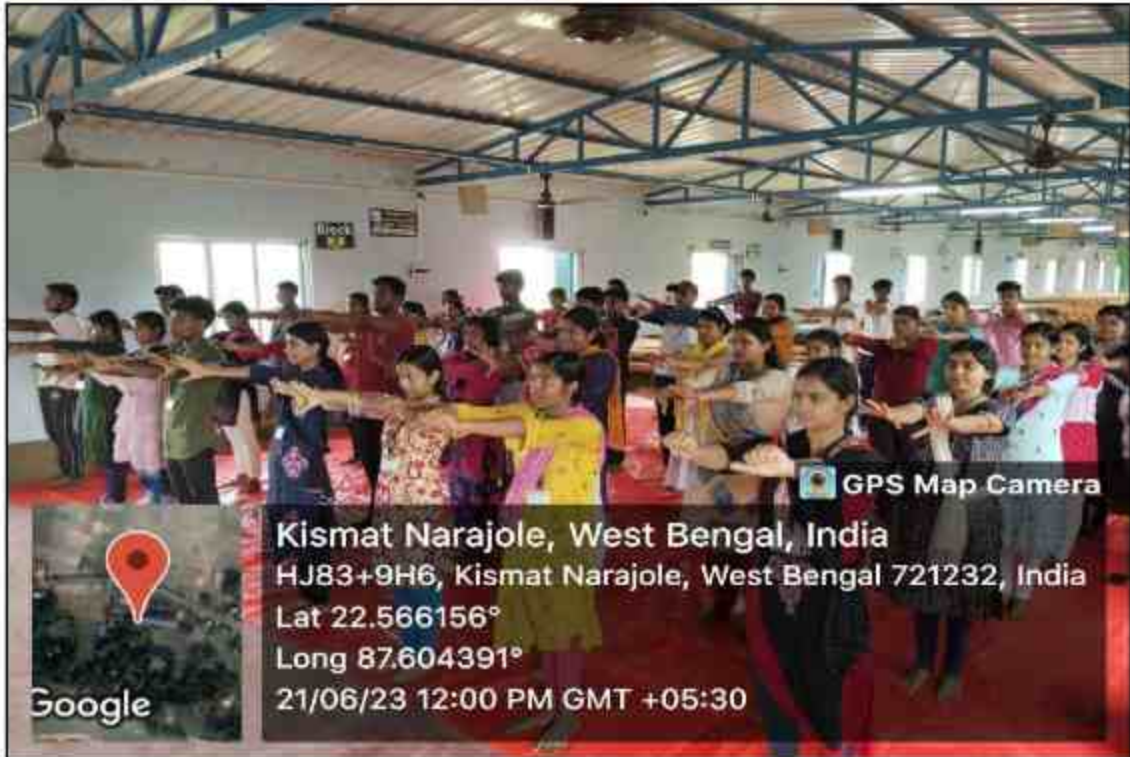
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Kismat Narajole
West Bengal
721232

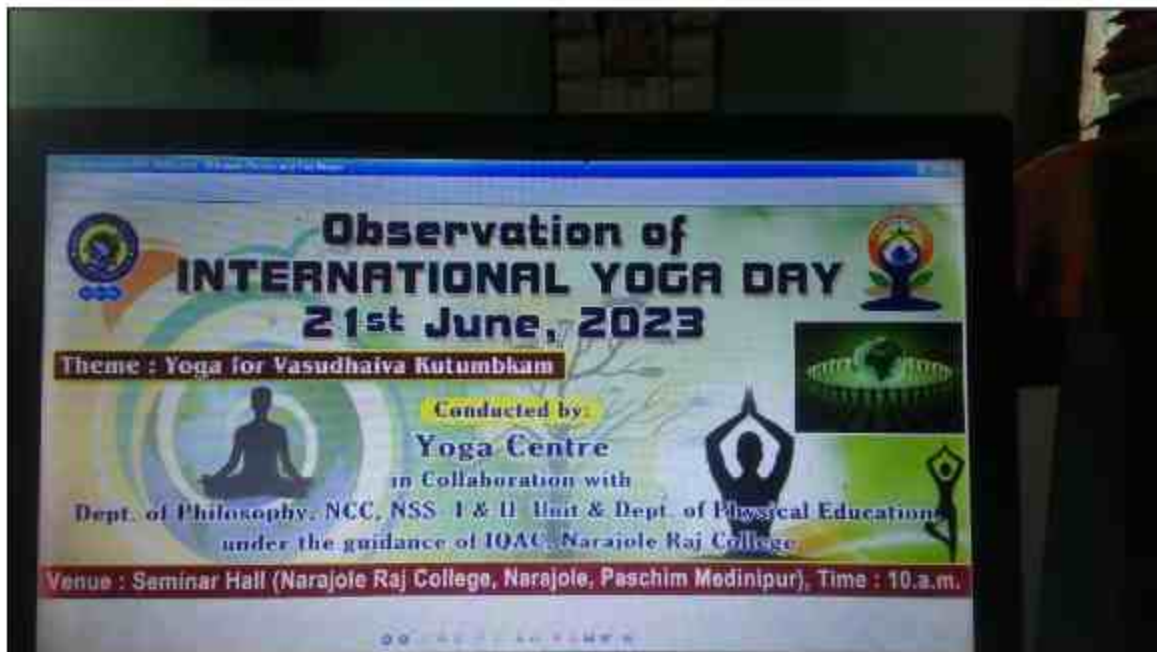


GPS Map Camera

Kismat Narajole, West Bengal, India
HJ83+9H6, Kismat Narajole, West Bengal 721232, India
Lat 22.566256°
Long 87.604385°
21/06/23 11:54 AM GMT +05:30

Google





15/07/20
NARAJOLE RAJ COLLEGE



15/07/23
Kishor Kumar
Kishor Kumar
Kishor Kumar



GPS Map Camera
Kismat Narajole, West Bengal, India
HJ83+9H6, Kismat Narajole, West Bengal 721232, India
Lat 22.566289°
Long 87.604397°
21/06/23 11:54 AM GMT +05:30

NARAJOLE RAJ COLLEGE

Participants List of Yoga Centre for the session- 2022-23

Sl no.	Name	Dept.	Sem.	cont.
1.	Tanmay Bisui	Bengali	4 sem	8293372645
2.	Souli Rani Bhunia	political science	iv	9874454975
3.	Suzekha Mana	political science	iv	6295641276
4.	Sohana parvin	political science	iv	9064288256
5.	Ganga Bhunia	political science	iv	8945889685
6.	Sabana Paswan	political science	iv	9735243791
7.	malobika Dasai	political science	iv	6296108455
8.	Moumita Maishal	Bengali	iv	8116952346
9.	Suparna Ghosh	Bengali	iv	9679908008
10.	Ratni Maishal	Bengali	iv	7863204365
11.	Priyanka Dalai	Bengali	iv	8397889718
12.	Dipamrita Sabud	Bengali	iv	7029385645
13.	Monisha Pal	Bengali	iv	8110032511
14.	Andrajit Sing	History	(iv)	7601965166

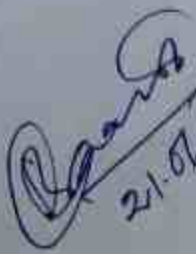
Signature



15. Palash Ghanti	History	4 sem /	8944839159
16. Rakhi Sarda	History	4 sem /	7811035561
17. Anura Bena	History	4 sem /	8390091129
18. Rubi Bag	History	1 sem /	8653983365
19. Priya Gupta	History	4 sem /	9832020373
20. Radha Rani Jana	History	4 sem /	8250199761
21. Deblina Karo	Political Science (H)	4th sem	8509717867
22. Payel Mondal	Political Science (H)	1th sem	9641260087
23. Sudapa Das	History (H)	4th sem	964167923
24. Disha Jana	Sanskrit (H)	4th sem	9394052107
25. Anub Ghosh	B.A General	4th sem	(9635363105)
26. Dipankar Chakraborty	B.A General	4th sem	(9339334519)
27. Saumyadip Bhangui	B.Sc General	1st sem	(072527819)
28. Piyali Maity	B.A History (H)	5th sem	(750873967)
29. Kabita Samanta	B.A (History) (H)	6th sem	(973537013)
30. Beauty Hanh	B.A (History) (H)	6th sem	(990700935)
31. Asit Jana	B.A (History) (H)	6th sem	(833782809)
32. Aneta Mondal	B.A (History) (H)	6th sem	(990731588)



- | | | | |
|---------------------------|---------------|---------|------------|
| 33. Payel Mandal | History (H) | 6th Sem | 9883210781 |
| 34. Mahenur Khatun | History (H) | 6th Sem | 8918529094 |
| 35. Priti Bhumia | History (H) | 6th Sem | 9883907955 |
| 36. Aparna Bera | History (H) | 6th Sem | 8509043188 |
| 37. Triya Shaw | History (H) | 6th Sem | 6295730926 |
| 38. Oisi Chattopadhyay | English (H) | 4th sem | 8001752029 |
| 39. Monisha Bairy | English (H) | 4th Sem | 9400501182 |
| 40. Sabita Adhikary | English (H) | 4th sem | 7602956965 |
| 41. Borshakar | B.A (General) | 4th sem | 9064303015 |
| 42. Mou Bar | B.A (General) | 4th Sem | 9749523508 |
| 43. Sulapa Chakrabarty | B.A (General) | 4th Sem | 7407576609 |
| 44. Banishakhi Kar | B.A (H) | 4th sem | 8158049706 |
| 45. Julecha Parvin Khatun | Eng (H) | 4th sem | 7047217568 |
| 46. Ankita Dutta | Eng (H) | 4th sem | 7811062488 |
| 47. Abhrami Dolai | Eng (H) | 4th Sem | 7908477314 |
| 48. Bodhounnestakhatun | Eng (H) | 4th sem | 8389936598 |
| 49. Panchanana Jua | Philosophy | 4th | 8436848594 |
| 50. Pinku Bolai | Philosophy | 4th | 8653983592 |


 21.06.2023 Yoga Centre
 Conchro,
 Dr. Bhadrakanti Mondal
 Narajole Raj
 College.



NARAJOLE RAJ COLLEGE
(NAAC Accredited 'B' Grade Govt. Aided College) NARAJOLE,
PASCHIM MEDINIPUR, WEST BENGAL, Pin-721211
Phone and Fax: +91-9933881131;
E-mail: narajoleracollege@rediffmail.com
Website: <http://www.narajoleracollege.ac.in>



National Webinar on Intellectual Property Rights

25-02-2023

**Organized By
IPR Cell**

NARAJOLE RAJ COLLEGE

The IPR Cell of Narajole Raj College has organised a One Day National Webinar on Intellectual Property Rights on 25-02-2023. Total 238 students and faculties from parent and different institutions have participated in this webinar. The aim of the webinar was to create interest on IPR among the faculties and students. Dr. Mahuya Hom Choudhury, Scientist C, Patent Information Centre, West Bengal State Council of Science and Technology, Department of Science and Technology and Biotechnology was the resource person. The discussion was done on IPR, IPR Laws, Copyright, Trademark, Patent, etc.



Approved
MD 30/04/24

Principal
Narajole Raj College
Narajole, Pin-721 211



NARAJOLE RAJ COLLEGE

(NAAC Accredited 'B' Grade Govt. Aided College)
NARAJOLE- PASCHIM MEDINIPUR- WEST BENGAL- Pin- 721211

Phone and Fax: +91- 9933881131; E-mail:

narajoleracollege@rediffmail.com

Website: <http://www.narajolerajcollege.ac.in>



Science Exhibition and Seminar on Research Methodology for School Students

28-02-2023

Organized By

Faculty of Sciences

NARAJOLE RAJ COLLEGE

The Faculty of Sciences of Narajole Raj College has organised a One Day Science Exhibition and Seminar on Research Methodology for School Students in collaboration with Breakthrough Science Society on 28-02-2023. Total 346 college students and students from different schools have participated in this workshop. The aim of the workshop was to build up research interest among the school and college students.



Principal
Narajole Raj College
Narajole, Pin-721 211





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Phone and Fax: +91- 9933881131; E-mail: narajoleracollege@rediffmail.com

Website: <http://www.narajolerajcollege.ac.in>



Workshop on Intellectual Property Rights at Naya

22-05-2023

&

Workshop on Intellectual Property Rights at Sabang

23-05-2023

Organized By

IPR Cell

NARAJOLE RAJ COLLEGE

A workshop was held on 22.05.2023 by the Intellectual Property Rights Cell of Narajole Raj College with GI number register Pot Shilpi at Naya, Pingla Police Station.

Similarly another workshop was conducted on 23.05.2023 at Ruinan in Sabong Police Station, Paschim Medinipur. In Naya Anwar Chitrakar, Ganga Manna, Gurupada Chitrakar, jaba chitrakar Monimala chitrakar etc. Pot Shilpi (obtained GI number) attended the workshop. On the other hand, at Sabang Alpana Jana, Ashok Jana, Biswajit Dutta, Chandan Mula, Gouri Bala Das, Gouri Rani Jana, Jadab Kum Samanta, Lakshmi Kanta Sahoo, Lakshmi Rani Mula, Lakshmi Sahoo, Mukul Rani Dutta, Nishikanta Das (Obtained GI No.) etc, attended the workshop.

The workshop was held Prof. Mangal Nayak, Prof. Rabindranath Maiti of Narajole Raj College were present with 10 students. The issue of socio-economic development of Shilpi came up in the workshop. Issues such as quality of products produced by Shilpi, market value, marketing, economic issues etc. The issues that the artists (Shilpi) raise in the workshop are recorded. It is said that necessary recommendations will be sent to the government to resolve the matter.



Attested
MA 30/04/24



Principal
Narajole Raj College
Narajole, Pin-721 211



NARAJOLE RAJ COLLEGE

(NAAC Accredited 'B' Grade Govt. Aided College)

NARAJOLE- PASCHIMMEDINIPUR- WEST BENGAL- Pin-721211

Phone and Fax: +91- 9933881131; E-mail: narajoleracollege@rediffmail.com

Website: <http://www.narajolerajcollege.ac.in>



Webinar on Indian Women across the Legal and Entrepreneurial Axes

23-06-2023

&

Organized By
Entrepreneurship Cell
NARAJOLE RAJ COLLEGE

A Webinar on "Indian Women across the Legal and Entrepreneurial Axes" was organized by the Entrepreneurship Cell and Gender Equity Cell of Narajole Raj College under the IQAC's guidance on 23rd June 2023 via Google Meet. Mr. Aftab Alam and Dr. Kathakali Bandopadhyay were the esteemed speakers for the session and explored diverse subjects to provide an overview of the condition of women in the public and the private spheres. Mr. Alam spoke at length about the different structural and systemic aspects of the entrepreneurial ecosystem with references to the Indian market phenomenon. Dr. Bandopadhyay articulated the concerns that are associated with the idea of questioning and mapping acts of violence in intimate, familial and social relationships. Both the speakers generated a lot of questions among students and participants and mobilized an intensely interactive session. Pragna Paramita Mondal, IQAC Coordinator and Convener of the Entrepreneurship Cell, facilitated the webinar proceedings. Baisali Guha, Convener of the Gender Equity Cell, offered the vote of thanks to speakers, collaborators and attendees. Special thanks were delivered to the Technology Sub-Committee and to Dr. Rajasree Debnath, Convener of the Seminar and Workshop Sub-Committee for their support and cooperation.



Aftab Alam
30/06/24
Principal
Narajole Raj College
Narajole, Pin-721 211



NARAJOLE RAJ COLLEGE

Entrepreneurship Cell & Gender Equity Cell of Narajole Raj College

invite you to a Webinar on

Indian Women across the Legal and Entrepreneurial Axes
23rd June, 2023 at 7 pm



Dr. Basudev Mandal
Chief Patron & Principal, Narajole Raj College



Aftab Alam, Research Scholar, IIT Kharagpur
Exploiting Entrepreneurship in the Vibrant Indian Entrepreneurial Ecosystem



Dr. Kathakali Bandopadhyay, Asst. Professor, Subarnarekha Mahavidyalaya
The Protection of Women from Domestic Violence Act, 2005



Pragna Paramita Mondal, Convener, Entrepreneurship Cell
IQAC Coordinator, Narajole Raj College



Baisali Guha, Convener, Gender Equity Cell, Narajole Raj College

Please join through the Google Link: <https://meet.google.com/awo-oxet-qsd>

Technical Support: Technology Sub-Committee, Narajole Raj College

AA 23/6
30/04/23

ALL ARE WELCOME

Principal
Narajole Raj College
Narajole, Pin-721 211





NARAJOLE RAJ COLLEGE



(NAAC Accredited B Grade Govt. - Aided College)

NARAJOLE: PASCHIM MEDINIPUR: PIN-721211

CONSTITUTION OF YOGA CENTRE

(w.e.f. June,23_ May,24)

- Dr. Basudev Mandal. – Principal and Chaiman, Yoga Centre.
- Dr. Bholanath Mahato. – Assistant Professor ,Dept. of Philosophy, Convenor of this Yoga Centre.
- Dr. Atanu Nanda. - Assistant Professor,Dept. of Physical Education as Member.
- Prof. Nandita Bhakat - Assistant Professor,Dept. of Botany as Member.
- Prof. Partha Kumar Manna. –State Aided College Teacher ,Dept. of Physical Education as Member.
- Prof. Singray Tudu. - Assistant Professor ,Dept. of Philosophy as Member.
- Dr. Rabindranath Maity. –State Aided College Teacher, Dept. of Sanskrit as Member.
- Dr. Uttam Kumar Singha – State Aided College Teacher ,Dept. of Sanskrit as Member.
- Prof. Bilash Samanta. –State Aided College Teacher ,Dept. of History as Member.
- Prof. Prasenjit Senapati. –State Aided College Teacher ,Dept. of Political Science as Member.
- Prof. Supen Sarkar. - Assistant Professor,Dept. of Political Science as Member.
- Dr. Sukamal Maity. – State Aided College Teacher ,Dept. of Geography as Member.

15/07/24



- Prof. Tumpa Jana. - Assistant Professor, Dept. of Sanskrit as Member.

This Yoga Center celebrates International Yoga Day every year. The aim of this yoga center is how to develop a sense of awareness among the students and awaken their inner strength through various yoga, pranayama and meditation practices. As a result, they can easily move forward in life with renewed vigor keeping the mind stress-free and the body disease-free. This yoga center is serving in various ways for the new extension committee. For now, two schools have been adopted besides the college, where children are taught yoga pranayama and meditation every week. So that they can be quite helpful in their personality development along with studies.

- A Syllabus was assigned to them . The classes of this course were taken from 12.07.2023 for six months through offline mode in two places i. e. Vidhyasagar Bidyalaya and Mahamaya Prathamik Vidyalaya, Dubrajpur ,Paschim Medinipur.

- Details of the experts / Yoga Trainers :

- 1 .Name : Dr. Bholanath Mahato.
- Designation: Assistant Professor.(Philosophy)
- Qualification: M.A. Ph .D in Philosophy.
- Professional qualification: The Art of Living Teacher.
- Other qualification: UGC-NET.

- 2. Name: Prof.Nandita Bhakat.
- Designation: Assistant Professor.(Botany)
- Qualification: M.Sc. in Botany.
- Professional qualification: B.Ed.
- Other qualification: W.B.SET.

- 3. Name : Dr. Atanu Nanda.
- Designation: Assistant Professor.(Physical Education)
- Qualification: M.A. , Ph.D.
- Other qualification: Short term Course in Yoga.



- **Learning Outcome & necessity of the course:**

- Students can easily learn different types of Yoga, Meditation and Pranayama.
- *To culture a habit of regular Yoga and Meditation practice.
- *To increase the body flexibility as well as mental peace.
- *To make the students aware towards the benefits of Yoga and Meditation.
- Right way to think for something or someone.
- *How to be motivated by one's own self.
- How to remove the pessimistic aspects of life.
- How to utilize the present moment.

- Dr. Bholanath Mahato.
- Convenor, Yoga Centre.
 - Narajole Raj College.





15/07/23





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15/6/23



Handwritten signature
15/7/23
Principal
Kismat Narajole
Kismat Narajole, West Bengal

The stamp is circular with a double border. The outer border contains the text "KISMAT NARAJOLE" at the top and "WEST BENGAL" at the bottom. In the center, there is a stylized emblem featuring a book and a lamp, with a banner below it containing the text "শিক্ষা বিজ্ঞান ও মানব সম্পদ উন্নয়ন" (Education, Science, and Human Resource Development).



Commented [1]: Yoga Centre

Handwritten signature and a circular stamp of the Yoga Centre.



Dubrajpur, West Bengal, India
HH6Q+JC6, Dubrajpur, West Bengal 721232, India
Lat 22.561248°
Long 87.588409°
15/09/23 02:58 PM GMT +05:30



Dubrajpur, West Bengal, India
HH6Q+JC6, Dubrajpur, West Bengal 721232, India
Lat 22.56122°
Long 87.588343°
06/10/23 01:42 PM GMT +05:30

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15/09/23
Principal
KIRAJOLE RAJ BULEZEE
KIRAJOLE RAJ BULEZEE
KIRAJOLE RAJ BULEZEE



Handwritten signature and date: 15/07/24





15/11/23

Principal
K. K. Saha
K. K. Saha
K. K. Saha





Dubrajpur, West Bengal, India
HH6Q+JC6, Dubrajpur, West Bengal 721232, India
Lat 22.561215°
Long 87.588362°
06/10/23 01:39 PM GMT +05:30

Google





GPS Map Camera

Dubrajpur, West Bengal, India
HH6Q+JC6, Dubrajpur, West Bengal 721232, India
Lat 22.561211°
Long 87.588402°
22/09/23 02:31 PM GMT +05:30

Google





REPORT ON TAILORING AND BEAUTICIAN COURSE-

Tailoring and Beautician course was started by Skill Hub, Narajole Raj College on 9th June, 2023. The programme was inaugurated by Principal and other respected guests. Respected madam Mamata Bhunia, MLA, Daspur was present in the inauguration programme. The course was a certificate course. Duration of the course was six months. Smt. Asima Kar and Smt. Mita Santra were the teachers of the course. The girl students and ladies from Baramara and Dubrajpur, adopted village of the college, joined the course. Total number of students of the course was twentyfive (25). The course co-ordinator was Prof. Baisali Guha, Associate Professor, Department of History, Narajole Raj College, nominated by G.B. of Narajole Raj College. After the completion of the course certificates were given by organizing a valedictory session.

OUTCOME OF THE COURSE-

The outcome of the course was two ladies got a job of tailoring in their own Anchal Office at Baramara.

The College Authority decided to continue the course in future.





HJ97+6GP, Nij Narajol, West Bengal 721211, India

Latitude

22.5722729°

Longitude

87.614781°

Local 11:50:24 AM

GMT 06:20:24 AM

Altitude 0 meters

Friday, 06-09-2023



15/07/23
NARAJOLE RAJ COLLEGE
NARAJOLE, WEST BENGAL
721211





15/6/23

Principal

NARAJOLE RAJ COLLEGE



Narajole, West Bengal, India
HJ98+J26, Narajole, Nij Narajol, West Bengal 721211, India
Lat 22.571152°
Long 87.614472°
28/02/24 12:11 PM GMT +05:30
NRC OFFICIAL: Captured by GPS Map Camera..

GPS Map Camera



Google

15/02/24
NARAJOLE RAJ COLLEGE
P.O. Narajole, Dist. Paschim Medinipur, W.B. 721211



Brindabanpur, West Bengal, India
HM2J+8JX, Brindabanpur, West Bengal 721211, India
Lat 22.550827°
Long 87.681607°
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NRC OFFICIAL: Captured by GPS Map Camera..

GPS Map Camera



Google



GPS Map Camera

Google

Narajole, West Bengal, India
 HJ98+J26, Narajole, Nij Narajol, West Bengal 721211, India
 Lat 22.570597°
 Long 87.614938°
 28/02/24 12:03 PM GMT +05:30
 NRC OFFICIAL: Captured by GPS Map Camera..



GPS Map Camera

Google

NARAJOLE RAJ COLLEGE
 (NAAC Accredited 'B' Grade Govt.- Aided College)
Valedictory of Certificate Courses on
TAILORING & BEAUTICIAN TRAINING
 Organized by:
Skill Hub, Narajole Raj College
 under the guidance of
IQAC, Narajole Raj College, Paschim Medinipur, W.B. - 721211
Principal: Dr. Basudev Mandal, Narajole Raj College
IQAC Co-ordinator: Pragna Paramita Mondal, Narajole Raj College
Narajole, West Bengal, India
 HJ98+J26, Narajole, Nij Narajol, West Bengal 721211, India
 Lat 22.570697°
 Long 87.614854°
 28/02/24 12:07 PM GMT +05:30
 NRC OFFICIAL: Captured by GPS Map Camera..



Handwritten signature and date: 15/07/24
 Narajole Raj College
 Paschim Medinipur, West Bengal



NARAJOLE RAJ COLLEGE



(NAAC Accredited B Grade Govt.- Aided College)

Narajole :: Paschim Medinipur :: Pin- 721211

Certificate Course on BEAUTICIAN TRAINING



This is to certify that

Miss / Mrs.....Sayantani Mondal...... has successfully
completed the 'Beautician Training Course' from 9th June 2023 to 4th February 2024,
organized by Skill Hub, Narajole Raj College under the guidance of IQAC,
Narajole Raj College.

Bala
Baisali Guba
(Course Co-ordinator)

Pragna Paramita Mondal
Pragna Paramita Mondal
IQAC Co-ordinator

Dr. Basudev Mandal
24/02/24
Principal

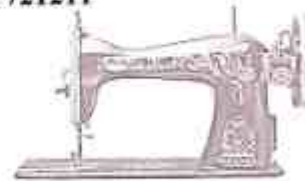


NARAJOLE RAJ COLLEGE

(NAAC Accredited B Grade Govt.- Aided College)

Narajole :: Paschim Medinipur :: Pin- 721211

Certificate Course on TAILORING TRAINING



This is to certify that

Sri/ Miss / Mrs.....Rakhi Dalbura...... has successfully
completed the 'Tailoring Course' from 9th June 2023 to 27th January 2024, organized by
Skill Hub, Narajole Raj College under the guidance of IQAC, Narajole Raj College.

Bala
Baisali Guba
(Course Co-ordinator)

Pragna Paramita Mondal
Pragna Paramita Mondal
IQAC Co-ordinator

Dr. Basudev Mandal
Principal

24/02/24
Principal

2023 - 2024

Sub - Tailoring Course NRC

ক বিভাগ

Time :- 1 Hour 30 Min

Full Marks : 50

সঠিক উত্তরটির পাশে (✓) চিহ্ন দাও :-

20X1 = 20

১. সেলাই মেশিনের আবিষ্কারক কে? জন বেয়ার্ড / ইলিয়াস হাউয়ে / জন লুইস / ইলিয়াস এডওয়ার্ড
২. শাড়িতে ফল্‌স লাগাতে কোন সেলাই হয়? রান / হেম / ডাল / বখেয়া
৩. মেশিনে কি তেল ব্যবহার হয়? সরষের তেল / নারকেল তেল / মেশিন তেল
৪. একটি প্রমান সাইজের পেটিকোর্ট বানাতে কত মিটার কাপড় লাগে? ২m / 3m / 4m
৫. এক হাত সমান কত ইঞ্চি? ১২ / ১৮ / ২০
৬. ১ গজ সমান কত ফুট? ১০ / ১২ / ৪ / ৩
৭. জামার বোতাম ঘর কোন দিকে কাটা হয়? ডানদিকে / বামদিকে
৮. ১ মিটার সমান কত ইঞ্চি? ৩৪ / ৪০ / ৩৯
৯. মহড়া কাকে বলে? জামার বগলের অংশকে / জামার হাতার অংশকে / জামার গলার অংশকে
১০. মেশিনে ববিন কাকে বলে? যেখানে সুঁচ লাগানো হয় / যেখানে সূতো ভরা হয় / যেখানে তেল দেওয়া হয়
১১. ব্লাউজের হাতা ও গলাতে কি ধরণের সেলাই হয়? রান / হেম / বখেয়া
১২. বোতামঘর সেলাইয়ের সময় যে সেলাই দেওয়া হয় তাকে কি বলে? হেম / ডাল / কাজঘর সেলাই
১৩. সামনা বলতে কি বোঝায়? জামার সামনের অংশ / পেছনের অংশ / উপরের অংশ / দুই দিক
১৪. ছয়কাট সায়ী কত পার্টে কাটা হয়? ৪ / ৫ / ৬ / ২
১৫. আন্তিন কি? জামার উপরের অংশ / জামার হাত / জামার পিছনের অংশ
১৬. পোষাকের মাপ নেওয়া ও ডায়াগ্রাম কোন এককে হয়? মিটার / ইঞ্চি / ফুট
১৭. শ্যাটেল কাকে বলে? যেখানে সূতা থাকে / ববিন থাকে / সুঁচ থাকে
১৮. লাইনিং কি? মেশিনের অংশ / সুঁচের অংশ / জামার ভেতরের অংশ / কাপড়ের অংশ
১৯. অঙ্কস্থান কাকে বলে? মেশিনের অংশ / সুঁচের অংশ / আঙুলের ডগায় ব্যবহৃত জিনিস
২০. সেলাই ছোট বড় করতে হলে মেশিনের কোন অংশ ব্যবহার করা হয়? স্টিচ রেগুলেটর / প্রেসার ফুট /

নিউজি বার

খ বিভাগ :

5X4 = 20

১. দর্জির কাজের উপকরণগুলি কি কি লেখ?
২. মেশিনের সুঁচ ভেঙে যাওয়ার কারণগুলি লেখ?
৩. সেলাই মেশিনকে ভালো রাখার চারটি উপায় লেখ?

১৯/১১/২৪



৪. মেশিনের সূতো কেটে যাওয়ার চারটি কারণ লেখ?

৫. সেলাই মেশিনের চারটি অংশের নাম লেখ?

প বিভাগ :

1 X 10 = 10

১. একটি গোলকাট পেটিকোট অথবা একটি চুড়িদার টেপ অথবা একটি সাধারণ জাকিয়ার ছবি অঙ্কন কর ও সূত্রগুলি লেখ?

১৫/০৫/২৪
১৫/০৫/২৪
১৫/০৫/২৪



BEAUTY PARLOUR COURSE

(6 Months)

- 1) Threading
- 2) Waxing / All Type
- 3) Make up Brusher
- 4) Bleach
- 5) DE-Tan
- 6) Clean Up
- 7) Facial
- 8) Menicure
- 9) Pedicure
- 10) Hair Cutting
- 11) Curling
- 12) Crimping
- 13) Heena Application
- 14) Highlights
- 15) Hair Color
- 16) Hair Massage
- 17) Hair Styles
- 18) Straightening
- 19) Make Up -
 - I) Basic Make Up
 - II) Party Make Up
 - III) Bridal Make Up
 - IV) Reaption Make Up

NARAJOLE RAJ COLLEGE

Beautician

Teacher s' Signature

Mita Santra

Bala (co-ordinator, Skill Hub)
Narajole Raj College



SYLLABUS

Home Science Tailoring

THEORY:

Tools and Equipment:

- Needles and the threads.
- Measuring and drafting tools.
- Cutting tools.
- Pressing Equipment

Machinery

Pants, Functions and maintenance of:

- Treadle Sewing machine.
- Motorized Sewing machine.
- Machine attachments.

Sewing Techniques:-

Features and application of different types of:

- Hand Stitches.
- Machine stitches.
- Embroidery stitches.
- Clipping Notching.
- Hemming.
- Shaping techniques. (Pleats tucks, gathers etc.)

PRACTICALS

Measuring

- Body.
- Material.

cutting components with hand cutting tools

Arranging layouts

operating and maintaining sewing machines

- Treadle Sewing machine.
- Motorized sewing machine.

Stitching

- Stitching by hand

Functional:

Ease stitch, tacking, running stitch, back stitch, hem stitches.

Decorative:

- Stem stitch, blanket stitch, closed blanket stitch, buttonhole stitch, feather stitch, chain stitch. Lazy stitch, herringbone stitch, cross stitch.
- Fixing fasteners (buttons, hooks, eyes.)

List of Dresses:

Petticoats, shorts Pant, Churidar Top.

Asima Das Kar
Tailoring Teacher
Nanjole Raj College
Signature

Bala. (Co-ordinator) Skill
Nanjole Raj College.

15/07/24
Nanjole Raj College



2023-2024
BEAUTICIAN COURSE NRC
FULL MARKS - 50
TIME - 1.30 HOURS

PART - I

1*10=10

1. Threading করতে কত নম্বর সুতো দরকার ?
2. Bleach এ যে Solt থাকে তার নাম কী?
3. Facepack কোথায় লাগাতে নেই ?
4. একটি Bleach এর নাম লেখ।
5. Wax & Bleach কোনটি আগে করতে হয়?
6. Pedicure প্রথম কোন দেশে প্রচলন ছিল?
7. Hair Colour করতে Creme ও Developer কিভাবে Mixed করবে।
8. Eye liner ও Maskara কোনটি আগে লাগাতে হয়?
9. High Lighter এর কাজ কী?
10. Concealer কেন লাগানো হয়?

PART-II

3*10=30

1. Beautician এর ভূমিকা কী?
2. Threading কী?
3. Threading এর পদ্ধতি লেখ?
4. Wax কাকে বলে ?
5. Bleach এর সাবধানতা কী কী?
6. D-Ten কী? D-TAN বিস্ময়
7. Facial এর উপকারিতা লেখ।
8. 5টি Massage Stoks এর নাম লেখ?
9. 2টি Eye make up Brush এর নাম লেখ?
10. Primer কেন লাগানো হয়?

Part -III

2*5=10

1. সুন্দর ভাবে কলকা আঁকো।
2. মেহেন্দি আঁকো নিজের পছন্দ মতো।

১৫/১১/২৪





NARAJOLE RAJ COLLEGE

(NAAC Accredited B Grade Govt. Aided College)

NARAJOLE: PASCHIM MEDINIPUR: PIN-721211

Affiliated to Vidyasagar University



An Essay Writing Competition On

Who according to you is the Best Indian Entrepreneur?

Organized by Entrepreneurship Cell under the guidance of IQAC of Narajole Raj College

Date of the program: 28.02.2024

The Entrepreneurship Cell organized an Essay Writing Competition on 28th February 2024 where students penned essays on "Who according to you is the Best Indian Entrepreneur?". Names of winners of the competition were announced on 29th February during the Debate Competition results announcement. All participants were commended by the judges for their keenness and enthusiasm.

The list of winners were as follows:

1. Sayan Samanta (1st),
2. Anupam Nayek (2nd) and
3. Payel Das (3rd).



Photo Galary

