

Report
on
Add-on Course On
Basic Practical Biotechnology
2022-2023



Raja Peary Mohan College

1, Acharya Dhruba Pal Road,

Uttarpara, Hooghly, West Bengal, Pin- 712 258.

Tel No.: (033)2663-0191, Mob: 7074292263

Website: <https://www.website.rpmcollege.edu.in/>, e-mail : rajapearymohancollege@gmail.com

ISO Certified

Ref.: _____

Date: _____

DECLARATION FROM THE PRINCIPAL

This is to certify that all the data provided in this document is true to the best of my knowledge.



Raja Peary Mohan College

1, Acharya Dhruba Pal Road,

Uttarpara, Hooghly, West Bengal, Pin- 712 258.

Tel No.: (033)2663-0191, Mob: 7074292263

Website: <https://www.website.rpmcollege.edu.in/>, e-mail : rajapearymohancollege@gmail.com

ISO Certified

Ref: _____

Date: _____

DECLARATION FROM THE PRINCIPAL

This is to certify that all the data provided in this document is true to the best of my knowledge.

Add-on Course on Basic Practical Biotechnology

Organizer: Biological Science Research Facility in association with IQAC

Registration Link: [Certificate Course on Basic practical Biotechnology \(google.com\)](#)

Date of commencement: 25th March 2023

Total Contact Hours: 38 hrs

No. of participants: 30

External Resource Person

- **Dr. Somsubhra Nath**, *Assistant Professor, Presidency University, Kolkata*
Lecture Title: Cell culture: basics and applications
- **Dr. Saiful Anam Mir**, *Assistant Professor, Dept. of Zoology, City College, Kolkata*
Lecture Title: Working with proteins: an experimental perspective
- **Dr. Ankita Chatterjee**, *Postdoctoral researcher, International Cancer Genome Consortium, National Institute of Biomedical Genomics, India*
Lecture Title: Journey with our genome
- **Dr. Durba Banerjee**, *Postdoctoral Scholar, University of Washington, USA*
Lecture Title: Basics of laboratory animal handling, maintenance and euthanasia

Internal Resource Person

- **Dr. Santanu Rana**, *Assistant Professor, Dept. of Zoology, Raja Peary Mohan College*
- **Dr. Somnath Mazumder**, *Assistant Professor, Dept. of Zoology, Raja Peary Mohan College*
- **Mr. Jyoti Das**, *Assistant Professor, Dept. of Zoology, Raja Peary Mohan College*
- **Mr. Artha Mondal**, *Research Scholar, Raja Peary Mohan College*
- **Smt. Medha Banerjee**, *Research Scholar, Raja Peary Mohan College*

Brief Report

A certificate course has been conducted by the Biological Science Research Facility in association with IQAC with a total contact duration of 38 hrs. 30 students from undergraduate, post graduate level as well as a Ph.D. research scholar had participated in the course which mainly focused on providing a direct hands-on exposure of the sophisticated instruments as well as cell and molecular biology techniques required for biomedical research. Students were given the demonstration of laboratory animal handling, maintenance and basic techniques of drug delivery following oral, intravenous and intraperitoneal routes of administration. Extensive practical sessions were held where students were divided into batches for demonstration followed by hands-on exposure of nucleic acid isolation, quantitation, PCR, agarose gel electrophoresis, protein extraction, sample preparation, SDS-PAGE and immunoblotting. Students were also given a basic demonstration of animal cell culture. The students were also introduced with the basics of next generation sequencing and other genomics techniques including microarray and capillary sequencing. Theoretical sessions were followed by practical sessions wherein different troubleshooting procedures were also been discussed so as to provide a real life experience of biomedical research to the students.

Add-on Course Notice



Raja Peary Mohan College

NAAC accredited with B grade (2.7); ISO 9001:2015

Uttarpara, Hooghly, West Bengal Pin- 712 258

Ph (033)26630881, Fax033) 26634155

Website: www.rpmcollege.org, e-mail: rajapearymohancollege@gmail.com

Dated: 18-03-2023

NOTICE

It is hereby notified for all concerned that the classes of the add-on course on "Basic certificate course on Practical Biotechnology" will commence from 25th March, 2023.

Course Coordinator

Principal

PRINCIPAL
Raja Peary Mohan College
Uttarpara, Hooghly

Brochure and course structure



Certificate Course on **BASIC PRACTICAL BIOTECHNOLOGY**

RESEARCH CELL, RAJA PEARY MOHAN COLLEGE

OPEN FOR REGISTRATION

Total Seat:25

COURSE DIRECTOR
DR. SUDIP KUMAR CHAKRABARTY

COURSE COORDINATOR
DR. SANTANU RANA

Course Fee

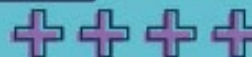
₹1,500/-

Course Offerings

- ✓ Cell Culture
- ✓ Gel Electrophoresis
- ✓ Western Blot; PCR and more

Contact Us :9831802169

[REGISTER HERE](#)



Certificate Course in Basic Practical Biotechnology - 2023



Organized by



Raja Peary Mohan College

Uttarpara, Hooghly, West Bengal

*course to be conducted by Research Cell in association with IQAC,
Raja Peary Mohan College*

Course start date: 25/03/2023

Last date of application: 17/03/2023

Class timings: 2:30 PM, Saturday

Snapshots of topics to be covered

- Animal Cell Culture and Sterilization
- Animal Handling and Drug Administration
- DNA & RNA Isolation and Quantitation
- PCR and Agarose Gel Electrophoresis
- SDS-PAGE and Immunoblotting

Overview of the syllabus

- **Packing and sterilization of glass and plastic wares for cell culture**
Basic concepts about laboratory glassware, types, cleaning and sterilization. Basic concepts about laboratory plasticwares, types, cleaning and sterilization. Prerequisites for cell culture.
- **Preparation of culture media. Cell harvesting and freezing techniques**
Basic concepts about complete and incomplete media, common media used in mammalian cell culture. Types of cell culture, primary and secondary. Maintenance of cancer cell lines. Concepts of cell passaging, harvesting and cryopreservation.
- **Animal euthanasia and organ harvesting. Tissue preservation procedures**
Basic concepts of laboratory animals (mice, rats). Techniques of animal handling, animal maintenance. Guidelines for setting pre-clinical *in vivo* studies. Routes of drug administration. Concept of terminal euthanasia and sacrifice as per standard guidelines. Tissue harvesting and preservation techniques.
- **Isolation of genomic DNA from tissue samples and blood. DNA estimation**
Genomic DNA isolation from animal tissues (goat liver), blood (WBC fraction). DNA quantitation by diphenylamine (DPA) reaction as well as by non-degradative method in UV-VIS spectrophotometer. Agarose gel electrophoresis. • DNA quantitation using agarose gel electrophoresis.
- **Isolation of RNA, reverse transcription PCR and semi quantitative PCR**
Total RNA isolation from cultured cells or animal tissues. RNA quantification by nanodrop UV-VIS spectrophotometer. Demonstration of reverse transcriptase PCR and semi quantitative PCR for gene expression analysis.
- **SDS PAGE and Western Blot**
Basic concepts about preparation of tissue lysate, protein estimation and sample preparation for SDS-PAGE and immunoblotting. Demonstration of tissue lysate preparation, quantification and sample preparation. SDS PAGE casting, sample loading and gel run. Demonstration of wet transfer of protein gels and immunoblotting. Detection of immunoreactive bands by chemiluminescence.
- **Review manuscript preparation. Topic: Biotechnology application (animal cloning its application & ethical Issues).**
- **Project report on Course (Report submission mandatory for certificate).**

Course outcome

The course has been designed based on the syllabus of the Honours Program in Zoology following the CBCS curriculum of diverse universities. The course covers basic laboratory techniques pertaining to the disciplines of Cell and Molecular Biology. Students will be benefitted from the course in the sense that they will get a direct hands-on exposure of the sophisticated instruments used in Cell and Molecular Biology including SDS-PAGE apparatus, PCR machine, nanodrop spectrophotometer, autoclave machine and most importantly entire cell culture setup (including biosafety cabinet, laminar flow hood, CO₂ incubator, inverted phase contrast and fluorescence microscope). In addition, students will also get the scope of visiting a CPCSEA-approved animal house at Raja Peary Mohan College. They will get acquainted with techniques of laboratory animal handling, rearing and drug delivery following standard routes of administration. This course specifically aims to bridge the gap between the theoretical and practical aspects of cell and molecular biology which the undergraduate students are supposed to learn as a part of their honours course. Several colleges don't have the opportunity to give the students a direct laboratory exposure owing to the extremely high cost-factor involved in setting up a molecular biology laboratory. Fortunately, Raja Peary Mohan College has such an infrastructure due to the Govt. funded Biological Research Facility where scientific projects are regularly run. Through this course, Raja Peary Mohan College aims to provide a direct exposure of sophisticated, state of the art Biomedical Science Research facility to the students to help them get a better and clearer understanding of the theoretical aspects of cell biology, protein chemistry, immunology and allied disciplines. This course will help the students to develop a scientific mindset with analytical ability which will enable them develop a passion for higher studies in Biomedical Research.

Available infrastructure

- Cell culture facility (biosafety cabinet, laminar flow hood, CO₂ incubator)
- Inverted fluorescence microscope, Nikon
- Chemidoc system, BioRad
- Refrigerated high speed microcentrifuge
- Western blot module with transfer apparatus (BioRad)
- Horizontal electrophoresis unit
- -80°C and -20°C Freezer
- Vertical autoclave
- CPCSEA registered animal facility form maintaining rats and mice
- Mechanical tissue homogenizer
- Digital analytical fine balance
- Thermomixer, Eppendorf
- Other standard instruments for routine cell and molecular biology experiments.

Course Director: Dr. Sudip Kumar Chakrabarty

Course Coordinator: Dr. Santanu Rana

Course Designer: Mr. Jyoti Das and Dr. Somnath Mazumdar

Student Enrolment

Certificate course on Basic Practical
Biotechnology

B.Sc/M.Sc Pursuing Candidates						
Sl No	Name	B.Sc Course	Subjects	B.Sc Semester	Course fees	Signature
✓ 1	NAMRATA SANTRA	Sem IV Hons	ZOOLOGY (Hons)	Sem IV	1500.00	Namrata Santra 25/3/23
✓ 2	KASTURI SARKAR	Hons SEM IV	ZOOLOGY (Hons)	Sem IV	1500.00	Kasturi Sarkar 25/3/23
3	ROHIT DHOLEY	Hons	ZOOLOGY (Hons)	SEM VI	1500.00	Rohit Dholey 25/3/23
3 rd 4	Meghna Pal	HONS	Zoology (Hons)	Sem VI	1500.	Meghna Pal 25/3/23 M.C.
5	Amrta Gopal Chatterjee	Hons.	Zoology (Hons)	Sem VI	1500	Amrta Gopal Chatterjee 25/3/23
6	Shahali Das	Hons.	Zoology (Hons)	Sem VI	1500	Shahali Das 25/3/23
7	Pooja Pan	Hons.	Zoology (Hons)	Sem VI	1500	Pooja Pan 25/3/23
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						


Kit

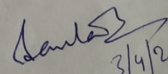
PRINCIPAL
Raja Peary Mohan College
Uttarpara, Hooghly

[Signature]
25/3/23

Certificate Course on Basic Practical Biotechnology.

B.Sc/M.Sc Pursuing Candidates						
Sl No	Name	College/University	B.Sc/M.Sc Course	B.Sc/M.Sc Semester	Course fees	Signature
1	Souvik Bhosh	R.B.C College/W.B.S.U	Zoology	4th Sem	1500/-	Souvik Bhosh 3/4/23
2	Seypriti Banik	Rishi Bankim Chandra college/W.B.S.U	Zoology	4th sem	1500/-	Seypriti Banik 03.04.23
3	Saikat Nandy	Chaturchandria College	Zoology	6th Sem	1500/-	Saikat Nandy 3/4/23
4	Debashmita Saha	Netaji Nagari College for Women	Zoology	6th Sem	1500/-	Debashmita Saha 3/04/23
5	Salya Ranjan Das	Maulana Azad College	ZOOLOGY	2 nd Sem M.Sc.	1500/-	Salya Ranjan Das 3/4/23
6	SOURMENDU BAG	University of BURDWAN	ZOOLOGY	M.Sc. Sem I	1500/-	Sourmendu Bag
7	Fozia Naaz	Vivekananda College/University of Calcutta	Zoology	M.Sc. Sem II	1500/-	Fozia Naaz
8	SAYANIKHA DUTTA	Vivekananda College/University of Calcutta	ZOOLOGY	B.Sc. Sem VI	1500/-	Sayanikha Dutta
9	PRATIKHA NATUA	Vivekananda College/University of Calcutta	ZOOLOGY	B.Sc. Sem VI	1500/-	Pratikha Natua
10	ARANYA APAR KARNIKAR	Vivekananda College/University of Calcutta	ZOOLOGY	B.Sc. Sem VI	1500/-	Aranya Apar Karnikar
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						


 PRINCIPAL
 Raja Peary Mohan College
 Uttarpara, Hooghly


 3/4/23

Certificate Course on Basic Practical Biotechnology

M.Sc Passed Candidates						
Sl No	Name	College/University	M.Sc Course	Profession	Course fees	Signature
1	SUSMITA DUTTA	UNIVERSITY OF CALCUTTA (2021)	ZOOLOGY	STUDENT	Paid	Susmita Dutta 03/04/2023
2	ANUSKA SAMANTA	DIAMOND HARBOUR WOMEN'S UNIVERSITY	ZOOLOGY	STUDENT	Paid	Anuska Samanta 03/04/2023
3	GOUTAM GHOSAL	UNIVERSITY OF CALCUTTA (2022)	ZOOLOGY	STUDENT	Paid	Goutam Ghosal 03.04.2023
4	ARIJIT KUMAR DUTTA	UNIVERSITY OF CALCUTTA (2022)	ZOOLOGY	STUDENT	Paid	Arijit Kumar Dutta 03.04.2023
5	SOURAV MAITY	UNIVERSITY OF CALCUTTA (2022)	ZOOLOGY	STUDENT	Paid	Sourav Maity 03/04/2023
6	Nobajit Mondal	WBSU (2019)	ZOOLOGY	STUDENT	Paid	Nobajit Mondal 03.04.2023
7	Debjyoti Ghosh	JIS University	Microbiology	Research scholar	Paid	Debjyoti Ghosh 03.04.2023
8	EUREKA MONDAL	University of Gourdamruti	ZOOLOGY	Teacher	Paid	Eureka Mondal
9	Upasana Basu	University of Calcutta (2021)	ZOOLOGY	STUDENT	Paid	Upasana Basu
10	SANJANA CHATTERJEE	CENTRAL UNIVERSITY OF JHARKHAND (2022)	LIFE SCIENCES	STUDENT	Paid	Sanjana Chatterjee 3/4/23
11	SHREYOSI MAITRA	UNIVERSITY OF CALCUTTA (2022)	NEUROSCIENCE	STUDENT	Paid	Shreyosi Maity 3/4/23
12	RIYA MALAKAR	WBSU (2022)	ZOOLOGY	STUDENT	Paid	Riya Malakar 3.4.23
13	PUJA MIOYA	WBSU (2022)	ZOOLOGY	STUDENT	Paid	Puja Miya 3.4.23
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

7
PRINCIPAL
Raja Peary Mohan College
Uttarpara, Hooghly

[Signature]
3/4/23

Certificate Course Student Attendance List

Certificate Course on Basic Practical Biotechnology

ATTENDANCE								
SL. NO	NAME	DAY1 (25.3.23) 2:30am-7:30pm	DAY2 (26.3.23) 11:00am-6:30pm	DAY3 (1.4.23) 11:00am-7:00pm	DAY4 (3.4.23) 11:am- 5:00pm	DAY5 (9.4.23) 2:30pm-5:30pm	DAY 6 (14.4.23) 11:am-5:00pm	DAY 7 (21.4.23) 11:am-5:00pm
1	SNEHITA DUTTA	P	P	P	P	P	P	P
2	ANUSKA SAMANTA	P	P	P	P	ab	P	P
3	AGOUTAM GHOSAL	P	P	P	P	P	P	P
4	ARJIT KUMAR DUTTA	P	P	P	P	P	P	P
5	SOURAV MAITY	P	P	P	P	P	P	P
6	NABAJIT MONDAL	P	P	P	P	P	P	P
7	DEBJOYI GHOSH	P	P	P	P	ab	P	P
8	EUREKA MONDAL	P	P	P	P	P	P	P
9	LIPSONA BARI	P	P	P	P	P	P	P
10	SANJANA CHATTERJEE	P	P	P	P	P	P	P
11	SIREYOSI MAITRA	P	P	P	P	P	P	P
12	RITVA MALAKAR	P	P	P	P	P	P	P
13	PUJA MIDYA	P	P	P	P	P	P	P
14	SOUHID GHOSH	P	P	P	P	ab	P	P
15	SEPRITI BANS	P	P	P	P	ab	P	P
16	SALIK SANDY	P	P	P	P	ab	P	P
17	DEBASMITA SAHA	P	P	P	P	ab	P	P
18	SATYA RANJAN DAS	P	P	P	P	P	P	P
19	SOU MENDE BAG	P	P	P	P	P	P	P
20	POEJA NAZ	P	P	P	P	P	P	P
21	SAYARNIKA DUTTA	P	P	P	P	P	P	P
22	PRATIKKHA SATHA	P	P	P	P	P	P	P
23	ARANYA APAR BARMALAKAR	P	P	P	P	P	P	P
24	NAMRATA SANTRA	P	ab	P	P	ab	P	P
25	KASTURI SARKAR	P	ab	P	P	ab	P	P
26	ROHIT BHOLEY	P	P	P	P	P	P	P
27	MEHRUPA ROY CHOWDHURY	P	P	P	P	P	P	P
28	ANINDYA GOPAL CHATTERJEE	P	P	P	P	P	P	P

PRINCIPAL
Raja Peary Mohan College
Uttarpara, Hooghly

Certificate Course on Basic Practical Biotechnology.

SL. NO	NAME	DAY1 (25.3.23) 2:30am-7:30pm	DAY2 (26.3.23) 11:00am-6:30pm	DAY3 (1.4.23) 11:00am-7:00pm	DAY4 (3.4.23) 11:am- 5:00pm	DAY5 (9.4.23) 2:30pm-5:30pm	DAY 6 (14.4.23) 11:am-5:00pm	DAY 7 (21.4.23) 11:am-5:00pm
29	SAHALI DAS	P	P	P	P	P	P	P
30	PIYALI PAN	P	P	P	P	ab	P	P
31								
32								
33								
34								
35								
36								
37								
38								

Sanjana
3/7/23

PRINCIPAL
Raja Peary Mohan College
Uttarpara, Hooghly

Course Certificates



Raja Peary Mohan College, Hooghly
Certificate Course in Basic Practical Biotechnology 2023
organised by Biological Science Research Facility in association with IQAC

25th March 2023 to 25th April 2023

Certificate of Participation

This is to certify that Soumano Kumar of West Bengal State University has participated and successfully completed the “**Certificate Course in Basic Practical Biotechnology 2023**” with A⁺ grade, organised by the Biological Science Research Facility in association with Internal Quality Assurance Cell of Raja Peary Mohan College with a total contact hour of 38 hrs.


Principal
Raja Peary Mohan College

Certificate Course Photos

