



BANWARILAL BHALOTIA COLLEGE
Govt. Sponsored UG and PG College
(Affiliated to Kazi Nazrul University)
G.T. Road, Ushagram, Asansol-713303
West Bengal, India

Supportive documents for 2.3.1
Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

2.3.1 Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

VIRTUAL LAB PERFORMED BY PHYSICS DEPARTMENT STUDENTS

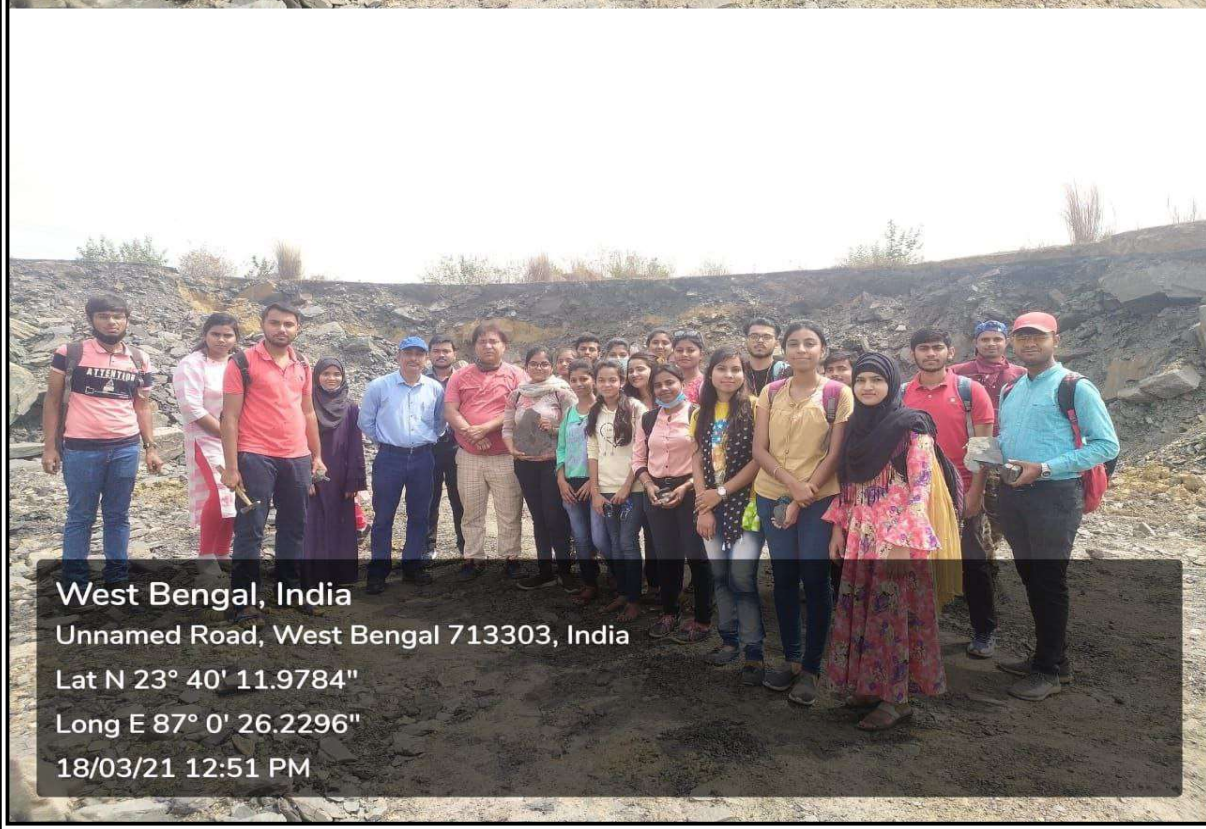
The screenshot shows the homepage of the Virtual Labs website. The header includes the date "9 Mar, 2021 | 12:42:55 PM" and the visitor count "Visitors: 11036157". The logo for Virtual Labs is displayed, along with the text "An Initiative of Ministry of Education Under the National Mission on Education through ICT". The navigation menu includes links for HOME, ABOUT US, BECOME NODAL CENTER, OUTREACH PORTAL, PARTICIPATING INSTITUTES, NMECT, and CONTACT US. The main content area is titled "Physical Sciences" and lists "Labs ready for use". Three labs are featured: "Molecular Interactions Lab" by IIT HYDERABAD, "Solid State Physics Virtual Lab" by ANRITA VISHNA VODIAPEETHAM, and "Electricity and Magnetism Virtual Lab" by ANRITA VISHNA VODIAPEETHAM. Each lab entry includes links for "Reference Books" and "Syllabus Mapping". An "Announcements" section on the right contains a message about a tutorial for using the Flash-based Labs through the Virtual Box.

The screenshot shows the interface for Experiment 7: "Measurement of Capacitance by De Sauty's (Modified) bridge". The page is titled "Experiment 7 (Measurement of Capacitance by De Sauty's (Modified) bridge)" and includes a "Done" button. The main content area displays a circuit diagram of the De Sauty's bridge, which is a Wheatstone bridge with four resistors R_1, R_2, R_3, R_4 and a central capacitor C_x . The diagram is labeled with "V₁" and "V₂". To the left of the diagram, there is a "Procedure" section with five steps: 1. Set the voltage (V=5V) and Frequency (50Hz) and set the unknown capacitance value from "Set Capacitor Value" tab by clicking on "Set" button. 2. Then switch on the supply to get millivoltmeter deflection. 3. Now vary the values of R_1, R_2, R_3, R_4 and C_x from the control box below or directly put the values in the boxes of respective elements. 4. Observe the millivoltmeter pointer to achieve "NULL". 5. If "NULL" is achieved, switch to "Measure Capacitor Value" tab and click on "Measure". Observe calculated values of unknown capacitance (C_x) and unknown internal resistance (r) of the capacitor. Also observe the De Sauty's factor of the unknown capacitor, which is defined as $n = C_x / r$ where $n = 2 \pi \times f$. Below the procedure, there are input fields for "Set Capacitor Value" and "Measure". The "Measure" section shows the calculated values: $C_x = 11.0111 \text{ nF}$ and $r = 11.0111 \text{ nF}$. The page also includes a "Files" section on the right, showing a document titled "New doc 20 Aug 2021 12:06 am.pdf" and a "Grade" section with a score of 20/20. A "Private comments" section is also visible at the bottom right.

Virtual lab performed by Physics Department Students

[illegible][illegible]

Field tour arranged by Department of Botany



Initiative for interactive learning undertaken by Post Graduate Department of Zoology

1:55 PM New Microsoft...tion [Uma Maji] - Read-only

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PACE OF EVOLUTION – PUNCTUATED EQUILIBRIUM & PHYLETIC GRADUALISM

PRESENTED BY
UMA MAJI
PG 1st SEM , ZOOLOGY

CONTENTS

- ACKNOWLEDGEMENT
- INTRODUCTION
- PATTERNS OF EVOLUTION :
 - PUNCTUATED EQUILIBRIUM
 - PHYLETIC GRADUALISM
- DIFFERENCES BETWEEN PUNCTUATED EQUILIBRIUM & GRADUALISM
- SUMMARY
- REFERENCES

ACKNOWLEDGEMENT

I , UMA MAJI would like to express my special thanks of gratitude to my Dept. Ma'am Dr. SANGITA LAHIRY , Assistant Professor, PG Department of ZOOLOGY , BANWARILAL BHALOTIA COLLEGE , Asansol ; who gave me the golden opportunity to do this wonderful presentation on "PACE OF EVOLUTION" . She also helped me in completing my presentation .

Secondly , I would also like to thank my HOD Sir, Dr. ARNAB GANGULI & other faculty members of our Department & my classmates who helped me a lot in finalizing this presentation within the limited time frame .

UMA MAJI
PG 1st SEM IN ZOOLOGY
BANWARILAL BHALOTIA COLLEGE

1:53 PM GRADUALISM 2 - Read-only

←

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GRADUALISM & PUNCTUATED EQUILIBRIUM

Presented by,
Avijit Banerjee
Dept. of Zoology
B.B.College, Asansol

ACKNOWLEDGEMENT

I would like to express my special thanks of gratitude to my professor Dr. Sangita Lahiri ma'am, for her able guidance and support in completing my project.

I would also like to extend my gratitude to the professor Dr. Arnab Ganguli [H.O.D] sir, and The whole Zoology faculty of B.B.College, who providing me with all the facility that was required.

Avijit Banerjee

CONTENTS

- Introduction
- Gradualism
- Phyletic Gradualism
- Punctuated Equilibrium
- Evidence of Punctuated Equilibrium
- Difference
- Summary
- Reference

Initiative for interactive learning undertaken by Post Graduate Department of Zoology (Continued)

15:15 • VoLTE1 4G 69%

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How to produce Vaccine?

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Expt. No. _____ Page No. _____
Date _____

Vaccine preparation:

Three key factors must be kept in mind in the development of a successful vaccine: the vaccine must be safe, it must be effective in preventing infection, and the strategy should be reasonably achievable given the population in question.

A vaccine typically contains an agent that resembles a disease-causing microorganism and is often made from weakened or killed forms of the microbe, its toxins, or one of its surface proteins.

Before vaccines can progress from the laboratory bench to the bedside, they must go through rigorous testing in animals and humans.

When animal studies (in rodents and/or nonhuman primates) prove fruitful, follow-up clinical trials in humans are initiated.

Phase I clinical trials assess human a small number of volunteers are monitored closely for adverse side effects.

15:12 • VoLTE1 4G 69%

KAZI NAZRUL UNIVERSITY

87%

Assignment topic: Recombinant DNA technology and human welfare.

Registration No: KNU19001778

Course Code: MSCZ00LC203 (unit I)

Roll No: 1021901332043003

Expt. No. _____ Page No. **01**
Date _____


RECOMBINANT DNA TECHNOLOGY FOR HUMAN WELFARE

Introduction → The principle of recombinant DNA technology based on the biotechnology, started in early 1970 with Paul Berg of Stanford University produced the first Recombinant DNA. This was followed by the generation of transgenic Escherichia coli in 1973 by Herbert Boyer of University of California, which resulted in the production of recombinant human insulin by Eli Lilly Company in 1982. Number of genes has been cloned and expressed during recombinant DNA technology. The genetic manipulation using r-DNA technology are more defined and outcomes are more certain over other methods resulting in faster production of organisms with desired traits. The application of genetic engineering (Direct manipulation of DNA to alter an organism's phenotypic characteristics) and recombinant DNA technology led to the generation of new classes of organism called genetically modified organism (GMO) or live modified organism (LMO).

Initiative for interactive learning undertaken by Post Graduate Department of Zoology (Continued)

15:15

VoLTE1 VoLTE2



POMFRET FISHERY

dreamstime

Presented By : Ankita Bose

M.Sc. 3rd semester


Introduction

HISTORY

Pomfret originated from the Portuguese word "pampo". A sea water fish with one single bone.

SYSTEMATIC POSITIONS

KINGDOM : ANIMALIA
PHYLUM : Chordata
Class : Actinopterygii
Order : Perciformes
Super Family : Percoidea
Family : Bramidae



DISTRIBUTION

- ❖ They are found globally in ATLANTIC , INDIAN and Pacific ocean.
- ❖ They are also found in numerous seas including Norwegian, Mediterranean Sea of Japan.
- ❖ The pomfrets constitute about 2.3% of total marine fish production in India. The bulk of catch comes from Maharashtra and Gujrat states ,which jointly contribute to about 61% of total landings

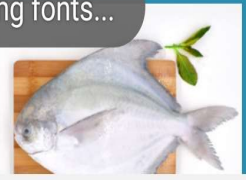
Morphological Identification

ORD

Sub ORD

Family : Stromateidae

☐ They are highly delicious table fishes which has high market value both in internal and



Downloading missing fonts...

1:54 PM

Evolutionary rate - Read-only

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THE RATE OF EVOLUTION.
GRADUALISM &
PUNCTUATED EQUILIBRIUM

Slide 1 of 11

Presented by

Tapan Ruidas

Student of :

M.Sc (semester : i)

Department of zoology

Banwarilal Bhalotia college , Asansol

ACKNOWLEDGMENT

I wish to express my deep gratitude and sincere thanks to the principal sir, Dr. Amitabh Basu for his encouragement and for all the facilities that he provided for this presentation.

I would like to my special thanks to our HOD Dr. Arnab Ganguli sir for give this opportunity .

I extend my hearty thanks to our Dear mam Dr. Sangita Lahiry, who guided me to the successful completion of this presentation.

I can't forget to my sincere thanks to my classmates who helped me to carry out this presentation work successfully and for their valuable advice and support.

Introduction

Scientists have drafted many theories and created many models to show how evolution occurs. They have also tried to understand how fast the process occurs. Currently there are two main theories concerning the rate of speciation .

These are :

- i. Gradualism.
- ii. Punctuated equilibrium.

Initiative for interactive learning undertaken by Post Graduate Department of Zoology (Continued)

15:14 VoLTE 4G 69%

i) Germ-line gene therapy experiments would involve too much specific uncertainty and clinical risks, and the long term effects of such therapy are unknown.

ii) Such gene therapy would open the door to attempts at altering human traits not associated with disease, which could exacerbate problems of social discrimination.

iii) Gene therapy is very expensive, and will never be cost effective enough to merit high social priority.

Ethical issues surrounding gene therapy:

- How can 'good' and 'bad' use of gene therapy be distinguished?
- Who decides which traits are normal and which constitute a disability or disorder?
- Will the high costs of gene therapy make it available only to the wealthy?
- Could the widespread use of gene therapy make society less accepting of people who are different?
- Should people be allowed to use gene therapy to enhance basic human traits such as height, intelligence, or athletic ability?

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PAGE NO. - 9

Conclusion

To cure genetic disease, scientists must first determine which gene or set of genes causes each disease. The Human Genome Project and other international efforts have recently completed the initial work of sequencing and mapping virtually all of the 30,000 genes in the human cell. This research will provide new strategies to diagnose, treat, cure, and possibly prevent human diseases.

Although this information will help scientists determine the genetic basis of many disease, it will be a long time before disease actually can be treated through gene therapy. Gene therapy's potential to revolutionize medicine in the future is exciting and its expectations for curing and preventing childhood disease are encouraging. One day it may be possible to treat an unborn child in utero for a genetic disease even before it comes into this world.

Acknowledgement

I would like to extend my special thanks and gratitude to our honorable HOD, Dr. Arnab Ganguly and Professors, Mrs. S. Chakraborty and Mrs. Zarqua Jamal for guidance and support in completing my assignment and presentation.

15:15 VoLTE 69%

VoLTE 69%

ELASMOBRANCH FISHERIES OF INDIA

SUBMITTED BY:

SHAMPA LAYEK

DEPARTMENT OF ZOOLOGY

MSC 3rd SEMESTER



Content:

- Introduction
- General characters
- Some important groups of Elasmobranch
- Indian marine capture fisheries
- State wise landing
- Need for sustainable Elasmobranch fishery
- Importance of marketing

INTRODUCTION

- Elasmobranchs are among the largest of the marine fish species which are cartilaginous, with Placoid scales embedded in the skin (shark) or naked (skates) and with gill slits.
- The elasmobranchs is a sub class of Chondrichthyes, consist of sharks (super order selachii) including sawfishes (Super order Batoidea), rays and skates. They have assumed great significance in the export market. They are exported by a different types of gears like gill net, long lines and trawls along with several others fishes.
- Size: 8 inches to 65 ft
- Lifespan: 20-25 year
- Diet: carnivore
- Habitat: Marine, coastal and oceanic habitats at various temperatures.

Kingdom	Animalia
phylum	Chordate

Department of Physics, B. B. College, Asansol-3

Schedule of BSc 2nd Semester Practical Examination 2022

Subject: Physics (Honours)

Sl No.	Date of Exam	KNU Registration No. of students (10221122)	Time of Exam	Practical Paper
1	25.07.2022	0090, 0338, 0117, 0184, 0284, 0014, 0248	11 am – 1 pm	Electricity & Magnetism
		0203, 0330, 0119, 0018, 0169, 0182, 0075	2 pm – 4 pm	
2	26.07.2022	0307, 0179, 0366, 0188, 0371, 0111, 0273	11 am – 1 pm	Electricity & Magnetism
		0175, 0092, 0370, 0189, 0114, 0157, 0012	2 pm – 4 pm	
4	28.07.2022	0346, 0468, 0171, 0149, 0251, 0024, 0053,	11 am – 1 pm	Electricity & Magnetism
		0236, 0387, 0493, 0185, 0362	2 pm – 4 pm	
4	04.08.2022	0090, 0338, 0117, 0184, 0284, 0014, 0248, 0203, 0330, 0119, 0018, 0169, 0182, 0075, 0307, 0179, 0366, 0188, 0371, 0111	11 am – 1 pm	Mathematical Methods of Physics-II
		0273, 0175, 0092, 0370, 0189, 0114, 0157, 0012, 0346, 0468, 0171, 0149, 0251, 0024, 0053, 0236, 0387, 0493, 0185, 0362	2 pm – 4 pm	

Examiners:

1. Dr. Sandip Sen, External Examiner, T. D. B. College, Raniganj.
2. Dr. Kajal Krishna Dey, Internal Examiner, B. B. College, Asansol
3. Dr. Abhik Ghosh, Internal Examiner, B. B. College, Asansol
4. Dr. Ambalika Biswas, Internal Examiner, B. B. College, Asansol

RKR
22.07.2022
HOD

Department of Physics,
B. B. College, Asansol-3.



Head
(UG & PG)



DEPARTMENT OF PHYSICS (PG & UG)

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Asansol-713303, West Bengal, India

B.SC. INTERNAL EXAMINATION 2022

I. B.Sc. Physics (Honours Sem II)

Paper	Paper Setter/ Uploader	E Mail Id of Paper Setter	Moderator	Invigilator	Examiner
Mathematical Methods of Physics-II	Dr. J. K. Majhi	devmajhi794@gmail.com	Dr. R. K. Roy	Dr. Shrabani Mondal	Dr. J. K. Majhi
Electricity (CC-4)	Dr. Ambalika Biswas	ambalika.official.2020@gmail.com	Dr. Kajal Krishna Dey	Dr. Ambalika Biswas	Dr. Ambalika Biswas

II. B. Sc. Physics (Program Sem II)

Paper	Paper Setter/ Uploader	E Mail Id of Paper Setter	Moderator	Invigilator	Examiner
Electricity & Magnetism	Dr. Kajal Maji	kajalmaji300@gmail.com	Dr. Abhik Ghosh	Dr. Kajal Maji	Dr. Kajal Maji

Note: Minimum 50 MCQ having four options are to be prepared for each paper. The MCQ are to be uploaded in the computer of the centralized Computer Room on 13th June to 15th June 2022. The teachers who teach various chapters of a paper are requested to send MCQ in the E-Mail id of paper setters. The MCQ containing symbols are to be prepared as images (JPEG, etc).





ESTD -1944

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(India)

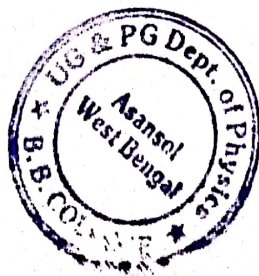
Date: 11/07/2022

NOTICE

The students of **B.Sc Semester-IV** having subject **Physics (Generic+Program)** are hereby informed that the **University Practical Examination-2022** will be held according to the following schedule in the Department of Physics.

Date	Registration nos.	Time	Paper
19/07/2022	KNU2010200 4451,4643,5956,4461,4628,4783,5693	11AM-1PM	GE-4
	KNU2010200 6763,6100,6764,6168,2403,5100,6787	2PM-4PM	GE-4
20/07/2022	KNU2010200 5318,4625,4828,4746,4799,5328,5251	11AM-1PM	GE-4
	KNU2010200 4516,4533,5816,6466,5447,5016,4893	2PM-4PM	GE-4
21/07/2022	KNU2010200 5094,5279,4818,4768,4921,5107,5550,5122	11AM-1PM	Program
	KNU2010200 4500,5892,6030,5391,5123,5738,5659,6850	2PM-4PM	Program

1. Dr. Ajay Sharma, External Examiner, B.C. College, Asansol
2. Dr. K.K. Dey, Internal Examiner, B.B. College, Asansol
3. Dr. J.K. Majhi, Internal Examiner, B.B. College, Asansol
4. Sri K. Maji, Internal Examiner, B.B. College, Asansol
5. Dr. S. Mondal, Internal Examiner, B.B. College, Asansol



RKR

HOD
Dept. Of Physics
B.B.College

Head
Department of Physics (UG & PG)
B.B. College, Asansol-713303 (W.B)



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BANWARILAL BHALOTIA COLLEGE
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NOTICE

All the 4th Semester Physics (H) students are hereby instructed to consult the corresponding supervisor for their SEC project. The project distribution is given below.

SEC-II: Basic Instrumentation Skills

Group	Project Title	Supervisor
G1	Measurement of Voltage, Frequency, Time Period and Phase angle.	Dr. P. Ghosh
G2	Measurement of rise, fall and delay time using CRO	Dr. K. Mukherjee
G3	Measurement of R, L and C using LCR bridge or universal bridge.	Sri. K. Maji
G4	Working principle of function generator	Dr. A. Biswas
G5	Working Principle of Q meter with Block diagram	Dr. R.K. Roy
G6	To draw the Lissajous figure using CRO	Dr. J. K. Majhi
G7	Working principle of Digital meters (Volt meter, ammeter etc.)	Dr. A. Ghosh
G8	Working principle of AC milli voltmeter	Dr. S Mandal
G9	Working principle and application of transformer	Dr. K.K. Dey
G10	To observe the loading effect of a multimeter while measuring voltage across a low resistance and high resistance	Dr. A. K. Mukherjee



H.O.D. 19/04/2022
Department Of Physics



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