"Dissemination of Education for Knowledge Science & Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

(An Empowered Autonomous Institute)

Department of Zoology

B. Sc. III, (Major Zoology) Sem. V

STUDENTS SEMINAR

(04/08/25 - 07/08/2025)

VIVEKANAND COLLEGE KOLHAPUR (Empowered Autonomous) ESTD JUNE 1964

Academic Year: 2025-2026

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Vivekanand College, Kolhapur
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STUDENTS SEMINAR

Dr. G. K. Sontakke
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DEPARTMENT OF ZOOLOGY
VIVEKANAND COLLEGE, KOLHAPUR
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Department of Zoology

Academic year-2025-2026

Date: 14/07/2025

NOTICE

Subject: Student Seminar B. Sc. III (Major Zoology) Semester V

All students of B. Sc. III here by informed that, as per part of curriculum and CIE, all have to complete their seminars. It is compulsory to all and scheduled of seminar is given below follow the schedule and complete your seminar. At the time of seminar, you have to submit Abstract of seminar to the Zoology Department.

Sr. No.	Name of Paper	Date of Seminar	Teacher In charge
1.	Molecular Biology	04/08/2025	Mr. G. H. Fadake
2.	Animal Biotechnology	05/08/2025	Dr. S. S. Desai
3.	Ecology	06/08/2025	Dr. G. K. Sontakke
4.	Biostatistics and Bioinformatics	07/08/2025	Ms. N. A. Patel

Dr. T. C. Patil
Coordinator

Dr. G. K. Sontakke
HEAD
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Seminar Topic Distribution- Molecular Biology

Sr. No.	Roll No.	Name of the Student	Topic Name	Signature
1.	8332	Adagale Paras Charudatta	Types of DNA replication	PARAS
2.	8333	Mahekar Pruthviraj Tatoba	Transcription in eukaryotes	AB
3.	8334	Mane Pranoti Prakash	Capping of mRNA	
4.	8335	Mane Sangramsingh Sandip	Translation in prokaryotes	AB
5.	8336	Momin Shireen Sajid	Translation in eukaryotes	
6.	8337	More Sanika Sanjay	lac operon: structure, function	
7.	8338	Nadaf Muskan Mohammad Rafiq	DNA repair- Direct repair	
8.	8339	Navale Rutuja Pradeep	DNA repair- nucleotide excision	
9.	8340	Patil Anushka Rajgonda	Nucleic acid as the genetic material	
10.	8341	Patil Gouri Vijay	DNA repair- base excision repair	AB
11.	8342	Patil Madhuri Sanjay	DNA repair- mismatch repair	
12.	8343	Patil Sayali Ashok	Genetic code	
13.	8344	Patil Suhani Suraj	DNA replication in prokaryotes	
14.	8345	Shirgave Rutuja Bajarang	Watson and Crick's model of DNA	
15.	8346	Todkar Shravani Sanjay	Transcription in prokaryotes	
16.	8347	Vira Sachin Khot	DNA replication in eukaryotes	
17.	8348	Bariya Avinaben Vinodbhai	Post transcriptional modification-splicing	
18.	8349	Kamble Ketan Keraba	DNA Damage- Source	
19.	8350	Kamble Ratndip Rajaram	DNA Damage- Mechanism and types	
20.	8351	Powar Yash Mahadev	Mutagenesis	AB
21.		Sakshi Madhav Chavan	Neurological disorders	

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Student Attendance- **Date: 4/8/2025**
Seminar for paper Molecular Biology

Sr. No.	Roll No.	Name of the Student	Signature
1.	8332	Adagale Paras Charudatta	PARAS
2.	8333	Mahekar Pruthviraj Tatoba	AB
3.	8334	Mane Pranoti Prakash	
4.	8335	Mane Sangramsingh Sandip	AB
5.	8336	Momin Shireen Sajid	Smomin
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Name :- Shireen Sajid Momin.
Std :- B.SC III, Sem V
Roll No :- 8336.
Subject :- Molecular Biology.

TRANSLATION IN EUKARYOTICS :-

◉ Translation :-

1. Translation is the process by which the genetic code carried by mRNA is used to build proteins with the help of ribosomes, tRNA & Amino acids.
2. It occurs in the cytoplasm of eukar-yotics cells, specifically on ribosomes.

◉ Process :-

- mRNA is decoded
- tRNA brings amino acids.
- Ribosome joints amino acids to form polypeptide chain (Protein).

◉ Steps :-

1) Initiation :-

1. Small ribosomal subunit binds to the 5' cap of mRNA.

2. It scans for the start codon (AUG)
3. large ribosomal subunit then joins to form the complete ribosome.
4. The initiator tRNA carrying methionine binds to AUG.

2) Elongation -
1. tRNA brings amino acids to the ribosome based on codon sequence in mRNA.
2. each codon (set of 3 bases) codes for one amino acid.
3. Ribosome moves codon by codon, linking amino acids with peptide bonds.
4. The growing polypeptide chain emerges from the Ribosome.

3) Termination -
1. when stop codon (UAA, UAG, UGA) is reached, no tRNA matches.
2. A release factor binds & the polypeptide is released.
3. The Ribosome detaches from the mRNA.

◉ Molecules Involved.
1. mRNA Carries genetic code from DNA.
2. tRNA Brings specific amino acids to the ribosome site.
3. Ribosome site of protein Synthesis.
4. Amino acids Building blocks of protein.

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Seminar Topic Distribution- Animal Biotechnology

Sr. No.	Roll No.	Name of the Student	Topic Name	Signature
1.	8332	Adagale Paras Charudatta	Concept and Scopes of Biotechnology	PARAS
2.	8333	Mahekar Pruthviraj Tatoba	Calcium chloride method	AB
3.	8334	Mane Pranoti Prakash	liposomal Mediated gene transfer	
4.	8335	Mane Sangramsingh Sandip	DNA sequencing: Sanger's method	AB
5.	8336	Momin Shireen Sajid	DNA fingerprinting	
6.	8337	More Sanika Sanjay	Polymerase chain reaction	
7.	8338	Nadaf Muskan Mohammad Rafiq	western blotting	
8.	8339	Navale Rutuja Pradeep	Restriction enzymes	
9.	8340	Patil Anushka Rajgonda	rDNA in medicines: Insulin production	
10.	8341	Patil Gouri Vijay	Gene therapy- Types and Applications	AB
11.	8342	Patil Madhuri Sanjay	Vector- Phagemid, Lambda	
12.	8343	Patil Sayali Ashok	Southern blotting	
13.	8344	Patil Suhani Suraj	Stem cells: types	
14.	8345	Shirgave Rutuja Bajarang	Stem cells: applications	
15.	8346	Todkar Shravani Sanjay	Application in Medicine	
16.	8347	Vira Sachin Khot	Applications in animal husbandry	
17.	8348	Bariya Avinaben Vinodbhai	Vector- Plasmid	
18.	8349	Kamble Ketan Keraba	Construction of cDNA libraries	
19.	8350	Kamble Ratndip Rajaram	Construction of genomic libraries	
20.	8351	Powar Yash Mahadev	Production of transgenic animals	AB
21.		Sakshi Madhav Chavan.	DNA- microinjection	Schavan

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Student Attendance- **Date: 5/8/2025**

Seminar for paper Animal Biotechnology

Sr. No.	Roll No.	Name of the Student	Signature
1.	8332	Adagale Paras Charudatta	PABAS
2.	8333	Mahekar Pruthviraj Tatoba	AB
3.	8334	Mane Pranoti Prakash	
4.	8335	Mane Sangramsingh Sandip	AB
5.	8336	Momin Shireen Sajid	
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7.	8338	Nadaf Muskan Mohammad Rafiq	
8.	8339	Navale Rutuja Pradeep	
9.	8340	Patil Anushka Rajgonda	
10.	8341	Patil Gouri Vijay	AB
11.	8342	Patil Madhuri Sanjay	
12.	8343	Patil Sayali Ashok	
13.	8344	Patil Suhani Suraj	
14.	8345	Shirgave Rutuja Bajarang	
15.	8346	Todkar Shravani Sanjay	
16.	8347	Vira Sachin Khot	
17.	8348	Bariya Avinaben Vinodbhai	
18.	8349	Kamble Ketan Keraba	
19.	8350	Kamble Ratndip Rajaram	
20.	8351	Powar Yash Mahadev	AB
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Name :- Shireen Sajid Momin
Std :- B.Sc III, Sem- V
Roll No :- 8336
Subject :- Animal Biotechnology

DNA FINGERPRINTING

1. DNA fingerprit is also known as DNA profiling or genetic fingerpriting.
2. laboratory Technique / chemical Test that shows Genetic makeup of person.
3. Sir Alec Jeffreys in 1984 was discovered the DNA fingerprint.
4. It involves identify differences in specific regions in DNA sequences.

● Applications :-

1. Forensic science - Identifying suspects, solving crimes, and exonerating innocent individual.
2. Paternity testing - Determining biological father of a child.
3. Genetic research - studying genetic Relationship & Identifying genetic disorders.
4. Conservation Biology - Indentifying species & Tracking genetic diversity.

⊙ Process :-

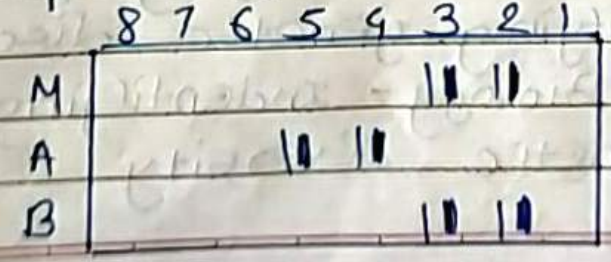
1] DNA Extraction – Isolating DNA from Biological samples (e.g- Blood, Saliva, Hair follicle). with the help of DNA sequencing technique. 0.1% DNA part consist of Repatative sequence

2] Restriction Enzyme Digestion –
Cutting DNA into smaller fragments using Restriction enzyme. (cut the specific region with the help of molecular sesion).

3] Gel Electrophoresis –
Seperating DNA fragment based on size using gel electrophoresis.
used Agarose gel, & Alkaline section (It works DNA fragment seperate).

4] Southern Blotting –
On the Electrophorisis gel the nylon sheet membrane (Paper).
Absorb this fragment on the nylon membrane sheet.
This process called Southern Blot.

5] Hybridization –
Binding labeled probes to specific DNA sequence.
Probe = complementary sequence called probe.
This process show Joint to DNA fragment from probe. (ATGC + TACG).



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Seminar Topic Distribution- Ecology

Sr. No.	Roll No.	Name of the Student	Topic Name	Signature
1.	8332	Adagale Paras Charudatta	Types of species interaction competition, predation	PABAS
2.	8333	Mahekar Pruthviraj Tatoba	Concept of Habitat	AB
3.	8334	Mane Pranoti Prakash	Ecological adaptation in aquatic	
4.	8335	Mane Sangramsingh Sandip	Food Chain	AB
5.	8336	Momin Shireen Sajid	Ecological adaptation in desert	
6.	8337	More Sanika Sanjay	Ecological adaptation in terrestrial	
7.	8338	Nadaf Muskan Mohammad Rafiq	Biogeochemical cycles- Nitrogen	
8.	8339	Navale Rutuja Pradeep	Biogeochemical cycles- Phosphorous	
9.	8340	Patil Anushka Rajgonda	Fundamental and realized niche	
10.	8341	Patil Gouri Vijay	Types of species interaction commensalism	AB
11.	8342	Patil Madhuri Sanjay	Characteristics of a population	
12.	8343	Patil Sayali Ashok	Ecotone and edge effect	
13.	8344	Patil Suhani Suraj	r- selection	
14.	8345	Shirgave Rutuja Bajarang	K-selection	
15.	8346	Todkar Shravani Sanjay	Stages of succession	
16.	8347	Vira Sachin Khot	Stages of succession	
17.	8348	Bariya Avinaben Vinodbhai	Niche width and overlap	
18.	8349	Kamble Ketan Keraba	Ecological Succession- hydrosere	
19.	8350	Kamble Ratndip Rajaram	Abiotic and biotic factors of ecosystem	
20.	8351	Powar Yash Mahadev	Ecological Succession- Lithosere	AB
21.		Sakshi Madhav Chavan.	Population growth curve	

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Student Attendance- **Date 6/8/2025**
Seminar for paper Ecology

Sr. No.	Roll No.	Name of the Student	Signature
1.	8332	Adagale Paras Charudatta	PABAS
2.	8333	Mahekar Pruthviraj Tatoba	AB
3.	8334	Mane Pranoti Prakash	
4.	8335	Mane Sangramsingh Sandip	AB
5.	8336	Momin Shireen Sajid	
6.	8337	More Sanika Sanjay	
7.	8338	Nadaf Muskan Mohammad Rafiq	
8.	8339	Navale Rutuja Pradeep	
9.	8340	Patil Anushka Rajgonda	
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Name:- Shireen Sajid Momin.
Std:- B.SC - III , Sem V
Roll NO:- 8336
Subject:- Ecology.

ECOLOGICAL ADAPTATION:- DESERT.

Desert animals live in dry, hot, & harsh environments where water is scarce and temperatures are extreme. To survive, they have depend special ecological adaptations in their body structure, physiology, & behavior.

i] Water conservation adaptations:
Highly efficient kidneys - produce concentrated urine to minimize water loss.
(e.g. kangaroo rat, camel)

Dry Feces - Desert animals excrete very little water through feces.

metabolic water - some animals get water from the digestion of food.

2] Temperature Regulation:
Thik skin or scales - reduce water loss & reflect sunlight.
(e.g. lizards, snakes)

No sweat glands - To prevent water loss
(e.g. desert rodents)

Active at night - stay underground during the hot day & come out at night to avoid heat.

3] Morphological Adaptations:
Long limbs or ears - Help in heat loss
(e.g. fennec fox has large ears.)

fat storage in body parts - camels store fat in their humps which can be used for energy & water.

4] behavioral Adaptations :-
Burrowing - Animals like desert fox or snakes dig burrows to stay cool.

Migration - some animals move to cooler areas during extreme heat.

- Desert animals show amazing adaptations that help them survive extreme heat & water scarcity. This adaptations are examples of how animals evolve to fit into their environment.

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Seminar Topic Distribution- Biostatistics and Bioinformatics

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1.	8332	Adagale Paras Charudatta	Graphical presentation of data-Line diagram,	PABAS
2.	8333	Mahekar Pruthviraj Tatoba	Scope of Biostatistics	AB
3.	8334	Mane Pranoti Prakash	Concept of mean, mode	
4.	8335	Mane Sangramsingh Sandip	requirement of a good table	AB
5.	8336	Momin Shireen Sajid	Methods of sampling data: Random	
6.	8337	More Sanika Sanjay	Methods of sampling- Stratified	
7.	8338	Nadaf Muskan Mohammad Rafiq	Methods of sampling data: Systematic	Muskan
8.	8339	Navale Rutuja Pradeep	Correlation: Types of Correlation	
9.	8340	Patil Anushka Rajgonda	Mean deviation	
10.	8341	Patil Gouri Vijay	Basic concepts in bioinformatics	AB
11.	8342	Patil Madhuri Sanjay	Type of tabulation,	
12.	8343	Patil Sayali Ashok	Basic concepts in bioinformatics	
13.	8344	Patil Suhani Suraj	Graphical presentation of data- Bar diagram	
14.	8345	Shirgave Rutuja Bajarang	Measure of dispersion (standard deviation)	
15.	8346	Todkar Shravani Sanjay	Graphical presentation of data- Pie chart	
16.	8347	Vira Sachin Khot	Organization of computer	
17.	8348	Bariya Avinaben Vinodbhai	Input and output devices	
18.	8349	Kamble Ketan Keraba	Elementary idea of software hardware	
19.	8350	Kamble Ratndip Rajaram	Role of bioinformatics in life sciences	
20.	8351	Powar Yash Mahadev	Student t-test	AB
21.		Sakshi Madhav Chavan	ANOVA	

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Student Attendance- 7/8/2025
Seminar for paper Biostatics and Bioinformatics

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1.	8332	Adagale Paras Charudatta	
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4.	8335	Mane Sangramsingh Sandip	AB
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21.		Bakshi Madhav Chavan	

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Name :- Shireen Sajid Momin.
Std :- B.Sc III , Sem V
Roll No :- 8336
Subject :- Biostatistics & Bioformatics.

METHODS of SAMPLING DATA :- RANDOM.

Random Sampling :-
- Random sampling is a method where every individual in population has an equal chance of being selected.
- This method ensure that sample is unbiased fair, & Represents the entire population.
- Each unit has the same probability of being chosen.
- selection is based on chance, not preferenc
- It's like lottery system - totally unpredic

◉ steps.
1. Define the population decide which group you want to study.
2. List all Individuals : Prepare complete list of all members.
3. Use random method to select sample.

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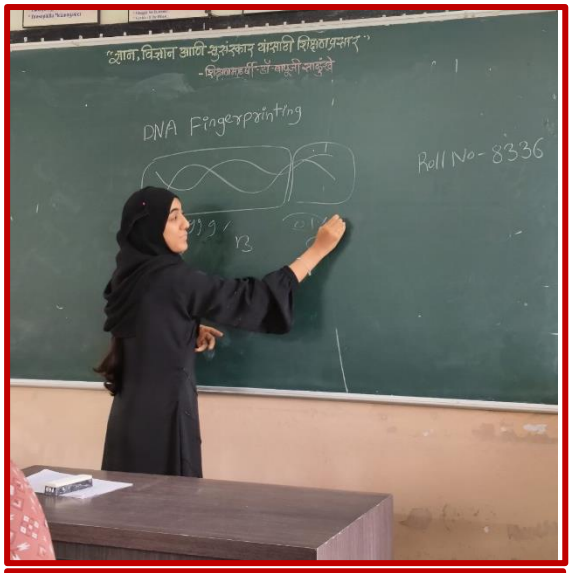
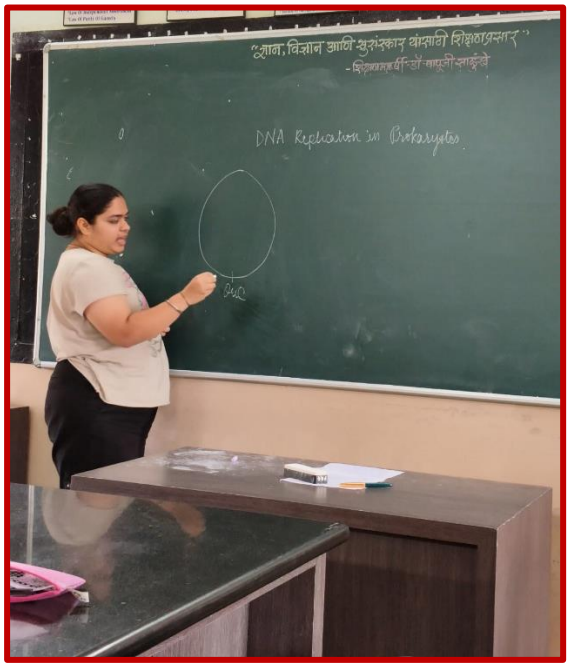
PHOTOPLATE

Seminar B. Sc. III Major Zoology Sem. V





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