"Education for Knowledge, Science and Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Autonomous)

Department of Zoology

B. Sc. III SEMINAR

(SEMESTER V & VI)

Academic Year: 2022-2023

"Education for Knowledge, Science and Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's
VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)
DEPARTMENT OF ZOOLOGY
Academic Year 2022-2023

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Seminar - B.Sc. III

VIVEKANAND COLLEGE KOLHAPUR (Empowered Autonomous) ESTD JUNE 1964

Dr. G. K. Sontakke
Head,
Department of Zoology
Vivekanand College,
Kolhapur (Autonomous)

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Autonomous)

Department of Zoology

Academic year-2022-2023

==========

Date: 15/10/2022

Student Seminar (B. Sc. III)

NOTICE

All students of B. Sc. III here by informed that, as per part of curriculum and CIE, all have to complete their seminars and it is mandatory to all. Schedule of seminar as per attached sheet.

(Dr. G. K. Sontakke)

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Vivekanand College, Kolhapur (Autonomous)

Department of Zoology

Academic year-2022-2023

Student Seminar (B. Sc. III)

Allotted topic for Seminar

Sr. No.	Roll No.	Name of Student	Topic of Seminar	Date of seminar	Sign
1.	8436	Alman Adesh Ajit	rDNA in Growth Hormone	4/11/2022	
2.	8437	Chougule Sahil Firoj	Medical importance of *Anopheles*	4/11/2022	
3.	8438	Darekar Vishakha Vishwanath	Structure of DNA	4/11/2022	
4.	8439	Davare Sarita Balu	Polymerase Chain Reaction	4/11/2022	
5.	8440	Chavan Devendra Somnath	rDNA in Insulin production	4/11/2022	
6.	8441	Gadkari Rifa Farukh	Animal Cell Culture- Types and Techniques	4/11/2022	
7.	8442	Garde Janhavi Alhad	Animal cell culture- Natural and Artificial Media	4/11/2022	
8.	8443	Gije Nandini Ravindra	Replication of DNA in Prokaryotes	4/11/2022	
9.	8444	Jadhav Sangram Pandurang	Sterilization- Physical Method	4/11/2022	
10.	8445	Khot Darshankumar Sarjerao	Sterilization- Chemical Method	4/11/2022	
11.	8446	Mane Payal Ashok	Application of Animal cell culture	4/11/2022	
12.	8447	Patil Dakshata Anil	Stem cell- Definition and types	4/11/2022	
13.	8448	Patil Pragati Tanaji	Application of Stem cell Culture	4/11/2022	
14.	8449	Patil Priya Prakash	Transcription in Prokaryotes	4/11/2022	
15.	8450	Patil Rutuja Chandrakant	Medical importance of *Pediculus humanus corporis*	5/11/2022	
16.	8451	Patil Sachin Uttam	Fish farming construction- requirements	5/11/2022	
17.	8452	Patil Sanika Suryakant	Fish Farming Maintenance	5/11/2022	
18.	8453	Pujari Supriya Rama	Western blotting	5/11/2022	
19.	8454	Rathod Shubham Jayram	Fish farming construction- types of pond	5/11/2022	
20.	8455	Shinde Pragati Sakharam	Animal cell culture- requirements	5/11/2022	
21.	8456	Shinde Tushar Popatrao	Gene therapy	5/11/2022	
22.	8457	Singh Shweta Raviranjan	Fish Farming Maintenance	5/11/2022	
23.	8458	Sutar Vaishnavi Rajendra	Transcription in Eukaryotes	5/11/2022	
24.	8459	Wakrushe Omkar Vitthal	Applications of PCR	5/11/2022	
25.	8511	Khot Sandhyarani Jayavant	rDNA technology-steps	5/11/2022	
26.	8512	Patil Snehal Nanaso	Medical importance of *Culex*	5/11/2022	
27.	8513	Tadavalekar Tejasvinee Ananda	Medical importance of *Aedes*	5/11/2022	
28.	8514	Kamble Arati Shivaji	Medical importance of *Xenopsylla cheopis*	5/11/2022	

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Vivekanand College, Kolhapur (Autonomous)

Department of Zoology

Academic year-2022-2023

Student Seminar (B. Sc. III)

==========

Date: 15/10/2022

NOTICE

All students of B. Sc. III here by informed that, as per part of curriculum and CIE, all have to complete their seminars for paper **Applied Zoology** and it is compulsory to all. Schedule 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.

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Department of Zoology

Academic year-2022-2023

Student Seminar (B. Sc. III)

==========

Topic for Seminar

Sr. No.	Roll No.	Name of Student	Topic of Seminar	Date of seminar	Sign
1.	8436	Alman Adesh Ajit	Types of parasite	4/11/2022	
2.	8437	Chougule Sahil Firoj	Medical importance of *Anopheles*	4/11/2022	
3.	8438	Darekar Vishakha Vishwanath	Life history and pathogenicity of *Entamoeba histolytica*	4/11/2022	
4.	8439	Davare Sarita Balu	Life history and pathogenicity of *Plasmodium vivax*	4/11/2022	
5.	8440	Chavan Devendra Somnath	Life history and pathogenicity of *Trichomonas*	4/11/2022	
6.	8441	Gadkari Rifa Farukh	Dairy Technology- types of Breed	4/11/2022	
7.	8442	Garde Janhavi Alhad	Dairy technology- Food, fodder Management	4/11/2022	
8.	8443	Gije Nandini Ravindra	Dairy technology- Shelter management	4/11/2022	
9.	8444	Jadhav Sangram Pandurang	Biology and control *Helicoverpa armigera*	4/11/2022	
10.	8445	Khot Darshankumar Sarjerao	Biology and control *Pyrilla perpusilla*	4/11/2022	
11.	8446	Mane Payal Ashok	Biology and control *Papilio demoleus*	4/11/2022	
12.	8447	Patil Dakshata Anil	Types of poultry breeds	4/11/2022	
13.	8448	Patil Pragati Tanaji	Poultry farming- feeding management	4/11/2022	
14.	8449	Patil Priya Prakash	Poultry farming- Shelter management	4/11/2022	

15.	8450	Patil Rutuja Chandrakant	Medical importance of *Pediculus humanus corporis*	5/11/2022	
16.	8451	Patil Sachin Uttam	Fish farming construction-requirements	5/11/2022	
17.	8452	Patil Sanika Suryakant	Fish Farming Maintenance	5/11/2022	
18.	8453	Pujari Supriya Rama	Cattle feed preparation	5/11/2022	
19.	8454	Rathod Shubham Jayram	Fish farming construction- types of pond	5/11/2022	
20.	8455	Shinde Pragati Sakharam	Rat feed preparation	5/11/2022	
21.	8456	Shinde Tushar Popatrao	Transportation of fish seed	5/11/2022	
22.	8457	Singh Shweta Raviranjan	Fish Farming Maintenance	5/11/2022	
23.	8458	Sutar Vaishnavi Rajendra	Epidemiology of Diseases-Tuberculosis	5/11/2022	
24.	8459	Wakrushe Omkar Vitthal	Epidemiology of Diseases-Typhoid	5/11/2022	
25.	8511	Khot Sandhyarani Jayavant	Epidemiology of Diseases-Dengue	5/11/2022	
26.	8512	Patil Snehal Nanaso	Medical importance of *Culex*	5/11/2022	
27.	8513	Tadavalekar Tejasvinee Ananda	Medical importance of *Aedes*	5/11/2022	
28.	8514	Kamble Arati Shivaji	Medical importance of *Xenopsylla cheopis*	5/11/2022	

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Vivekanand College, Kolhapur (Autonomous)

Department of Zoology

Academic year-2022-2023

Student Seminar (B. Sc. III)

==========

ATTENDANCE

Sr. No.	Roll No	Name of Student	4/11/2022	5/11/2022
1.	8436	Alman Adesh Ajit		
2.	8437	Chougule Sahil Firoj		
3.	8438	Darekar Vishakha Vishwanath		
4.	8439	Davare Sarita Balu		
5.	8440	Chavan Devendra Somnath		
6.	8441	Gadkari Rifa Farukh		
7.	8442	Garde Janhavi Alhad		
8.	8443	Gije Nandini Ravindra		
9.	8444	Jadhav Sangram Pandurang		
10.	8445	Khot Darshankumar Sarjerao		
11.	8446	Mane Payal Ashok		
12.	8447	Patil Dakshata Anil		
13.	8448	Patil Pragati Tanaji		
14.	8449	Patil Priya Prakash		
15.	8450	Patil Rutuja Chandrakant		
16.	8451	Patil Sachin Uttam		
17.	8452	Patil Sanika Suryakant		
18.	8453	Pujari Supriya Rama		
19.	8454	Rathod Shubham Jayram		
20.	8455	Shinde Pragati Sakharam		
21.	8456	Shinde Tushar Popatrao		
22.	8457	Singh Shweta Raviranjan		
23.	8458	Sutar Vaishnavi Rajendra		
24.	8459	Wakrushe Omkar Vitthal		

25.	8511	Khot Sandhyarani Jayavant	Khot	Khot.
26.	8512	Patil Snehal Nanaso	Patil	Patil
27.	8513	Tadavalekar Tejasvinee Ananda	Tadavalekar	Tadavalekar
28.	8514	Kamble Arati Shivaji	Kamble	Kamble

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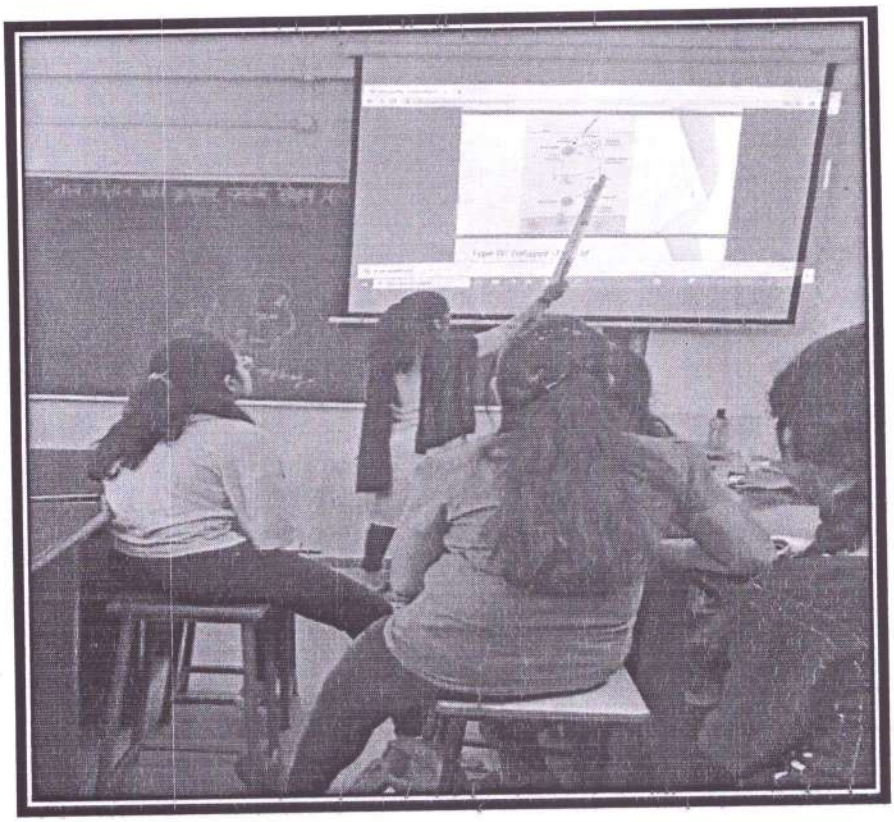
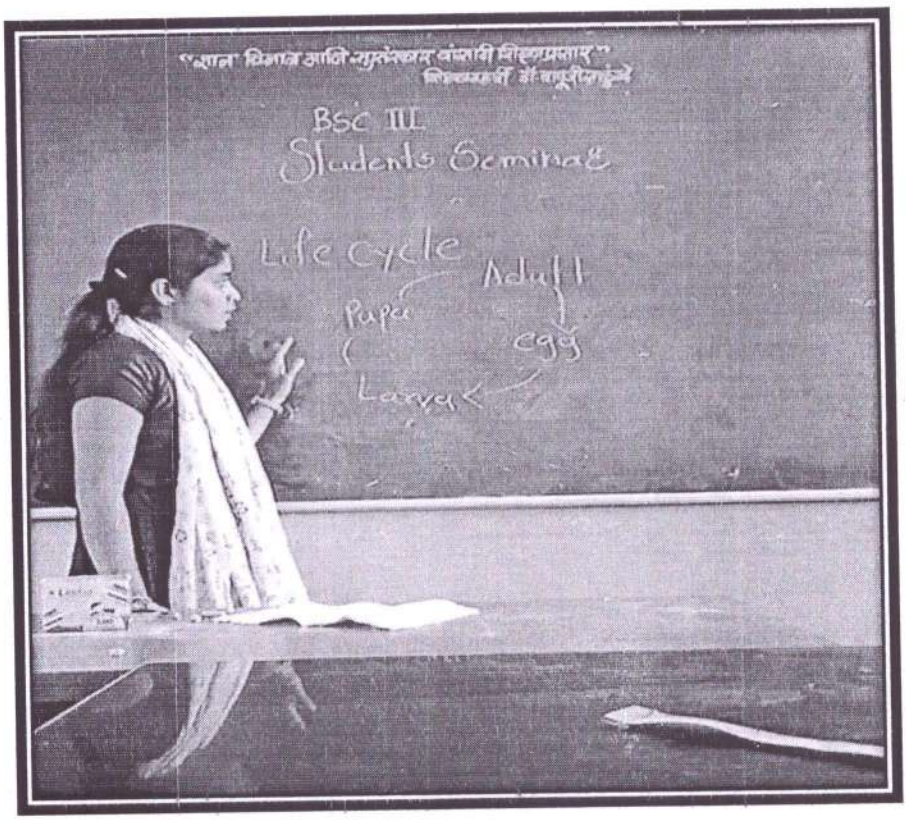
Kolhapur (Autonomous)





B. Sc. III Student Seminar, SEM V- **2022-23**

Dr. G. K. Sontakke
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Kolhapur (Autonomous)

Shri Swami Vivekanand Shikshan Sanstha's

Vivekananda College Kolhapur (Autonomous)

Department of Zoology

Academic Year: 2022-2023

B.Sc. III Semester VI

Seminar

Date: 02/01/2023

Notice

All students of B.Sc. III here by informed that, as per part of curriculum and CIE, all have to complete their seminar for Paper Ecology & Aquatic Biology-VII and it is compulsory to all. Schedule of seminar is given below, follow the schedule and complete your seminars. All have to present their seminar through Power Point Presentation.

Enclosure: Schedule of Seminar

(Dr. G. K. Sontakke)
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Shri Swami Vivekanand Shikshan Sanstha's

Vivekananda College Kolhapur (Autonomous)

Department of Zoology

Academic Year: 2022-2023

B.Sc. III Semester VI

Allotments of Seminar Topics for Paper VII

Sr. No.	Roll No.	Name of Student	Topic of Seminar	Date of Seminar	Sign
1	8436	Alman Adesh Ajit	Structure, function, types of Ecosystem	23/02/2023	
2	8437	Chougule Sahil Firoj	Components of ecosystem	23/02/2023	
3	8438	Darekar Vishakha Vishwanath	Energy flow in ecosystem	23/02/2023	
4	8439	Davare Sarita Balu	Cycling of minerals in ecosystem	23/02/2023	
5	8440	Chavan Devendra Somnath	Food chain & food web	23/02/2023	
6	8441	Gadkari Rifa Farukh	Ecological pyramids-Upright	23/02/2023	
7	8442	Garde Janhavi Alhad	Ecological pyramids-Inverted	23/02/2023	
8	8443	Gije Nandini Ravindra	Introduction to biomes & types of biomes	23/02/2023	
9	8444	Jadhav Sangram Pandurang	Fresh water ecosystem & estuaries	23/02/2023	
10	8445	Khot Darshankumar Sarjerao	Intertidal zones, oceanic pelagic zone, marine benthic zone	23/02/2023	
11	8446	Mane Payal Ashok	Salinity and density of Sea water	23/02/2023	
12	8447	Patil Dakshata Anil	Continental shelf	23/02/2023	
13	8448	Patil Pragati Tanaji	Adaptations of deep sea organisms	23/02/2023	
14	8449	Patil Priya Prakash	Coral reef & Sea weeds	24/02/2023	
15	8450	Patil Rutuja Chandrakant	Lakes: Origin and classification	24/02/2023	
16	8451	Patil Sachin Uttam	Lake morphometry	24/02/2023	
17	8452	Patil Sanika Suryakant	Physico–chemical Characteristics of lake	24/02/2023	
18	8453	Pujari Supriya Rama	Dissolved Solids, Carbonate, Bicarbonates, Phosphates and Nitrates,	24/02/2023	
19	8454	Rathod Shubham Jayram	Turbidity; dissolved gases (Oxygen, Carbon dioxide)	24/02/2023	
20	8455	Shinde Pragati Sakharam	Nutrient Cycles -Nitrogen	24/02/2023	
21	8456	Shinde Tushar Popatrao	Nutrient Cycles -Sulphur	24/02/2023	
22	8457	Singh Shweta Raviranjan	Nutrient Cycles - Phosphorous.	24/02/2023	
23	8458	Sutar Vaishnavi Rajendra	Different stages of stream development	24/02/2023	
24	8459	Wakrushe Omkar Vitthal	Adaptation of hill-stream fishes & Conservation of streams	24/02/2023	
25	8511	Khot Sandhyarani Jayavant	Causes of pollution	24/02/2023	
26	8512	Patil Snehal Nanaso	Eutrophication & Management and conservation of aquatic reservoirs	24/02/2023	
27	8513	Tadavalekar Tejasvinee Ananda	Sewage treatment	24/02/2023	
28	8514	Kamble Arati Shivaji	Water quality assessment- BOD & COD	24/02/2023	

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Vivekananda College Kolhapur (Autonomous)

Department of Zoology

Academic Year: 2022-2023

B.Sc. III Semester VI

Seminar

Date: 02/02/2023

Notice

All students of B.Sc. III here by informed that, as per part of curriculum and CIE, all have to complete their seminar for paper Immunology-VIII and it is compulsory to all. Schedule of seminar is given below, follow the schedule and complete your seminar. All have to present their seminar through Power Point Presentation.

Enclosure: Schedule of Seminar

(Dr. G. K. Sontakke)
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Vivekananda College Kolhapur (Autonomous)

Department of Zoology

Academic Year: 2022-2023

B.Sc. III Semester VI

Allotments of Seminar Topics for Paper VIII

Sr. No.	Roll No.	Name of Student	Topic of Seminar	Date of Seminar	Sign
1	8436	Alman Adesh Ajit	Components of immune system	24/03/2023	
2	8437	Chougule Sahil Firoj	Innate immune system	24/03/2023	
3	8438	Darekar Vishakha Vishwanath	adaptive immune system	24/03/2023	
4	8439	Davare Sarita Balu	Haematopoeisis	24/03/2023	
5	8440	Chavan Devendra Somnath	Cells of immune system	24/03/2023	
6	8441	Gadkari Rifa Farukh	Primary lymphoid organs	24/03/2023	
7	8442	Garde Janhavi Alhad	Secondary lymphoid organs	24/03/2023	
8	8443	Gije Nandini Ravindra	Antigens & its properties	24/03/2023	
9	8444	Jadhav Sangram Pandurang	B cells epitopes	24/03/2023	
10	8445	Khot Darshankumar Sarjerao	T cell epitopes	24/03/2023	
11	8446	Mane Payal Ashok	Haptens and adjuvants	24/03/2023	
12	8447	Patil Dakshata Anil	Structure of Antibodies	24/03/2023	
13	8448	Patil Pragati Tanaji	Classes and function of antibodies	24/03/2023	
14	8449	Patil Priya Prakash	Hybridoma technology	24/03/2023	
15	8450	Patil Rutuja Chandrakant	Antigen antibody interactions as tools for research and diagnosis	25/03/2023	
16	8451	Patil Sachin Uttam	ELISA & its types	25/03/2023	
17	8452	Patil Sanika Suryakant	Structure and functions of MHC	25/03/2023	
18	8453	Pujari Supriya Rama	Exogenous pathways of antigen presentation	25/03/2023	
19	8454	Rathod Shubham Jayram	Endogenous pathways of antigen presentation	25/03/2023	
20	8455	Shinde Pragati Sakharam	Basic properties and functions of cytokines	25/03/2023	
21	8456	Shinde Tushar Popatrao	Complement system- Classical pathway	25/03/2023	
22	8457	Singh Shweta Raviranjan	Complement system- Alternative pathway	25/03/2023	
23	8458	Sutar Vaishnavi Rajendra	Complement system- Lectine pathway	25/03/2023	
24	8459	Wakrushe Omkar Vitthal	Type 1 & 2 hypersensitivities hypersensitivity	25/03/2023	
25	8511	Khot Sandhyarani Jayavant	Type 3 & 4 hypersensitivities hypersensitivity	25/03/2023	
26	8512	Patil Snehal Nanaso	Autoimmune disorders	25/03/2023	
27	8513	Tadavalekar Tejasvinee Ananda	Vaccines & its types	25/03/2023	
28	8514	Kamble Arati Shivaji	Production of vaccines	25/03/2023	

(Dr. G. K. Sontakke)
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Shri Swami Vivekanand Shikshan Sanstha's

Vivekananda College Kolhapur (Autonomous)

Department of Zoology

Academic Year: 2022-2023

B.Sc. III Semester VI

ATTENDANCE

Sr. No.	Roll No.	Name of Student	24/03/2023	25/03/2023
1.	8436	Alman Adesh Ajit		
2.	8437	Chougule Sahil Firoj		
3.	8438	Darekar Vishakha Vishwanath		
4.	8439	Davare Sarita Balu		
5.	8440	Chavan Devendra Somnath		
6.	8441	Gadkari Rifa Farukh		
7.	8442	Garde Janhavi Alhad		
8.	8443	Gije Nandini Ravindra		
9.	8444	Jadhav Sangram Pandurang		
10.	8445	Khot Darshankumar Sarjerao		
11.	8446	Mane Payal Ashok		
12.	8447	Patil Dakshata Anil		
13.	8448	Patil Pragati Tanaji		
14.	8449	Patil Priya Prakash		
15.	8450	Patil Rutuja Chandrakant		
16.	8451	Patil Sachin Uttam		
17.	8452	Patil Sanika Suryakant		
18.	8453	Pujari Supriya Rama		
19.	8454	Rathod Shubham Jayram		
20.	8455	Shinde Pragati Sakharam		
21.	8456	Shinde Tushar Popatrao		
22.	8457	Singh Shweta Raviranjan		
23.	8458	Sutar Vaishnavi Rajendra		
24.	8459	Wakrushe Omkar Vitthal		
25.	8511	Khot Sandhyarani Jayavant		
26.	8512	Patil Snehal Nanaso		
27.	8513	Tadavalekar Tejasvinee Ananda		
28.	8514	Kamble Arati Shivaji		

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Vivekananda College Kolhapur (Autonomous)

Department of Zoology

Academic Year: 2022-2023

B.Sc. III Semester VI

ATTENDANCE

Sr. No.	Roll No.	Name of Student	23/02/2023	24/02/2023
1.	8436	Alman Adesh Ajit		
2.	8437	Chougule Sahil Firoj		
3.	8438	Darekar Vishakha Vishwanath		
4.	8439	Davare Sarita Balu		
5.	8440	Chavan Devendra Somnath	A	
6.	8441	Gadkari Rifa Farukh		
7.	8442	Garde Janhavi Alhad		
8.	8443	Gije Nandini Ravindra		
9.	8444	Jadhav Sangram Pandurang	A	
10.	8445	Khot Darshankumar Sarjerao		
11.	8446	Mane Payal Ashok		
12.	8447	Patil Dakshata Anil		
13.	8448	Patil Pragati Tanaji		
14.	8449	Patil Priya Prakash	A	
15.	8450	Patil Rutuja Chandrakant	A	
16.	8451	Patil Sachin Uttam	A	
17.	8452	Patil Sanika Suryakant	/	
18.	8453	Pujari Supriya Rama	A	
19.	8454	Rathod Shubham Jayram	A	
20.	8455	Shinde Pragati Sakharam	A	
21.	8456	Shinde Tushar Popatrao		
22.	8457	Singh Shweta Raviranjan		
23.	8458	Sutar Vaishnavi Rajendra		
24.	8459	Wakrushe Omkar Vitthal	A	
25.	8511	Khot Sandhyarani Jayavant		
26.	8512	Patil Snehal Nanaso		
27.	8513	Tadavalekar Tejasvinee Ananda		
28.	8514	Kamble Arati Shivaji	A	

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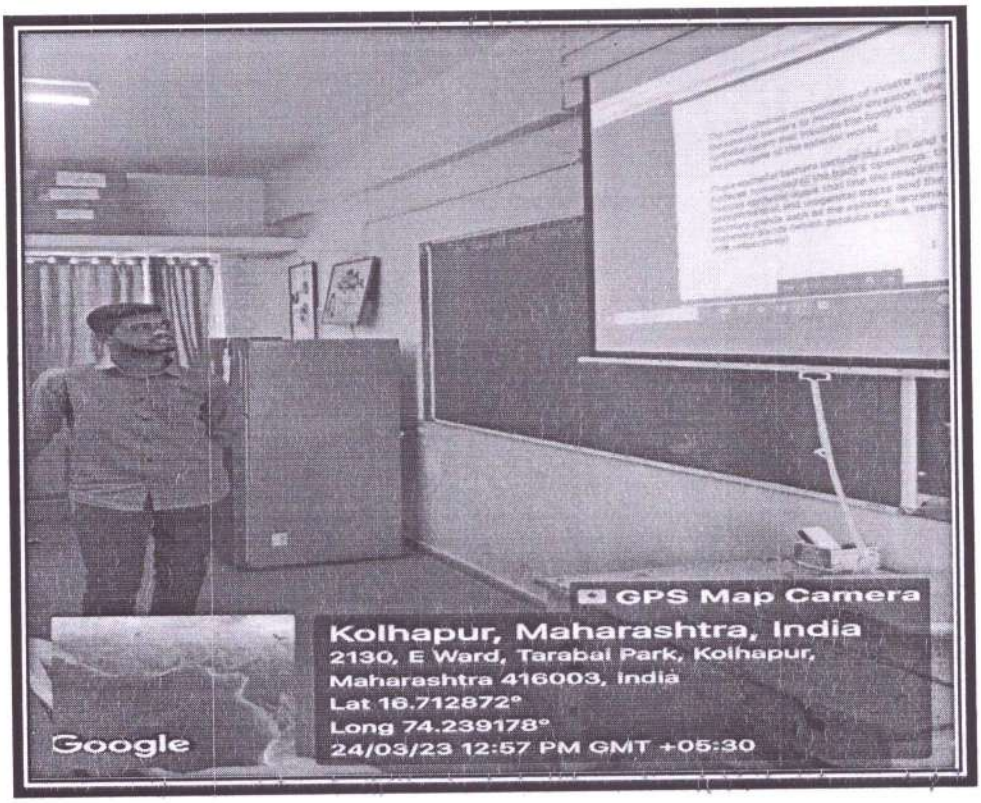

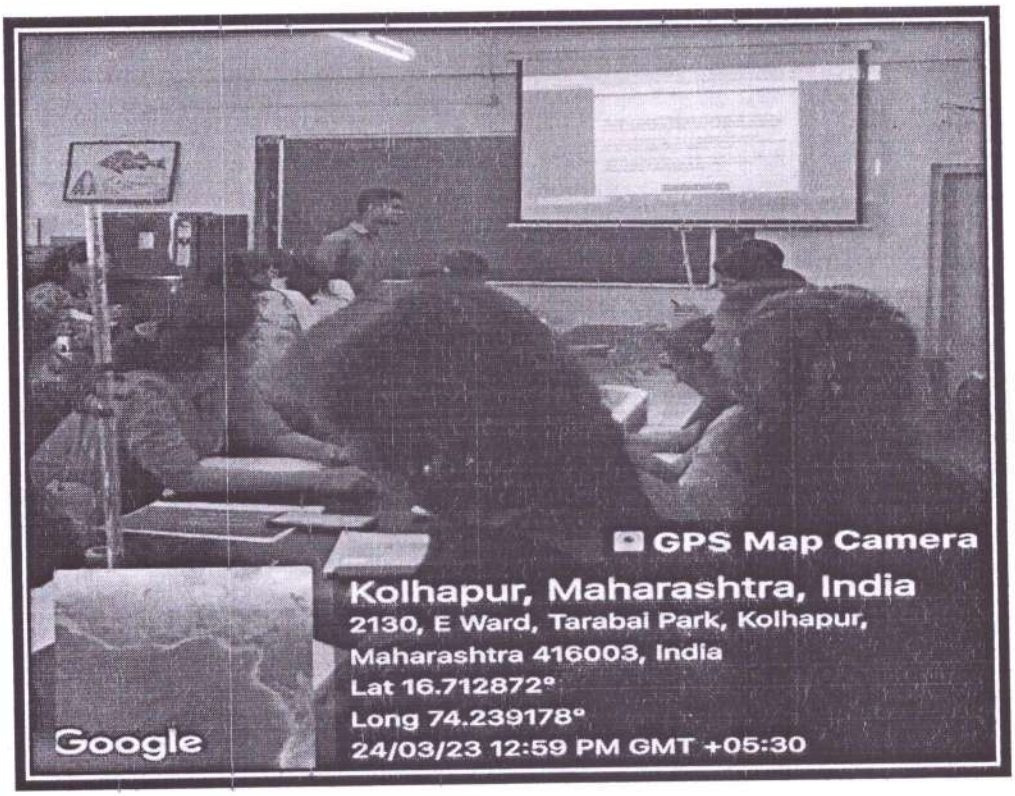

B. Sc. III Student Seminar, SEM VI- **2022-23**

Dr. G. K. Sontakke
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Kolhapur (Autonomous)

DEPARTMENT OF ZOOLOGY

ENERGY FLOW IN ECOSYSTEM

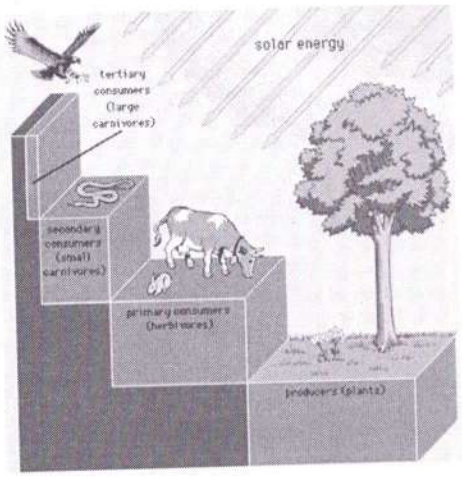
PRESENTED BY : VISHAKHA V. DAREKAR
BSC-TY ROLL NO: 8438

VIVEKANAND COLLEGE KOLHAPUR (AUTONOMUS)

- **Energy Flow in Ecosystem:** One of the significant variables that support the survival of such a large number of creatures is the energy flow in the ecosystem. A network of links between living and non-living components makes up an ecosystem

- The energy flow in the ecosystem is one of the major factors that support the survival of such a great number of organisms.

• For almost all organisms on earth, the primary source of energy is solar energy.

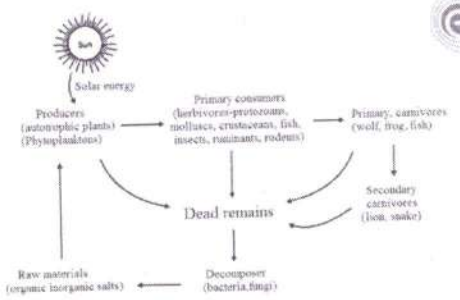


Prrimary Energy Source

Energy Flow in an Ecosystem

- **Energy flow is based on two different laws of thermodynamics:**
- **(i) First Law of Thermodynamics :**The first law of thermodynamics states that energy can neither be created nor destroyed. Here also, the source of energy, i.e., solar energy, can neither be created nor destroyed. It can only be transferred from one system to another as from one form to another form.
- **(ii) Second Law of Thermodynamics :** In the second law, it is stated that during the transformation, a portion of the energy is dissipated into the surroundings as heat energy.

• Animals can use energy in two forms: Radiant and fixed energy. Radiant energy is the framework of electromagnetic waves, such as light. Fixed energy is potential chemical energy tied up in different organic substances that can be injured to discharge their energy content.



- When the light energy spill on the green surfaces of plants, a part of it is converted into chemical energy, which is kept in various organic products in the green plants. When the herbivores eat plants as food and transform energy into chemical energy accumulated in plant products into kinetic energy, degradation of energy will occur through its conversion into hotness.

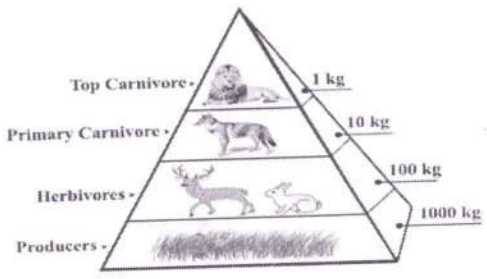
- When herbivores are eaten up by carnivores of the foremost order (secondary consumers), further degradation will occur. Similarly, when top carnivores feed primary carnivores, again energy will be degraded.

•TROPHIC LEVEL

- The producers and consumers in an environment can be organized into several feeding groups, each known as trophic level (feeding level).

1. Producers represent the first trophic level.
2. Herbivores represent the second trophic level.
3. Primary carnivores represent the third trophic level.
4. Top carnivores represent the last level.

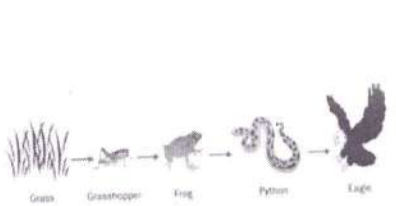
•TROPICAL LEVEL



•ENERGY FLOW

- A food chain may be explained as the transmission of energy and nutrients through a sequence of organisms through repeated processes of eating and being eaten. In the food chain, the initial link is a green plant or producer which produces chemical energy available to consumers.

•**For example :**Marsh grass is consumed by a grasshopper, the grasshopper is consumed by a frog, and that frog is consumed by a python. Thus, a food chain is developed, which can be written as follows: Marsh grass → grasshopper → frog → python → eagle



Important Of Energy Flow In Ecosystem..

- The energy flow in an ecosystem is essential. All organisms in an ecosystem function due to the energy they get from the energy flow. The ecosystem's very functioning depends on the flow of energy (starting with solar radiation) and the cycling of materials.
- The ecosystem maintains itself and has stability through the process of energy flow. The more the levels in the food chains, the less energy available at the top.

THANK YOU !!!

STRUCTURE AND FUNCTION OF MHC

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INTRODUCTION

- Major Histocompatibility Complex (MHC) is set of surface proteins located on the cell membrane of nucleated cells .
- It plays more important work to identify the antigen between self and non-self body ,intracellular recognization and responsible for antigen presentation.
- Histo refers to tissue. Compatibility refers to living together harmoniously.
- MHC molecules always recognize only T lymphocytes. The two types of MHC are worked in immunity. T helper (Th) cell recognized by MHC molecules II ,and T Cytotoxic (Tc) cells are recognized MHC I molecules.

DEFINATION

"Major Histocompatibility Complex is membrane attached protein which work on recognization of antigen between self and non-self body and antigen presentation "

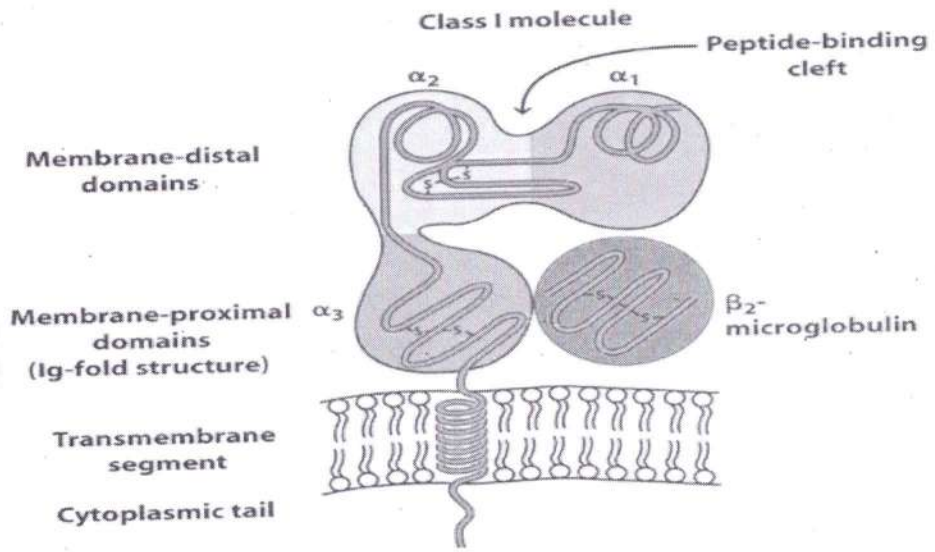
Types of MHC Molecules

- The MHC molecules are classified into three classes namely :-

1. MHC Molecules Class I
2. MHC Molecules Class II
3. MHC Molecules Class III

MHC Molecules Class I

- Class I MHC (45KD) molecule are a group of major Histocompatibility antigen.
- They are present on the surface of all nucleated cells except nervous tissue and platelets.
- It present antigen to Tc cells .
- It bind with CD-8 adhesion molecules of Tc cells.
- It brings about cell mediated immune response.

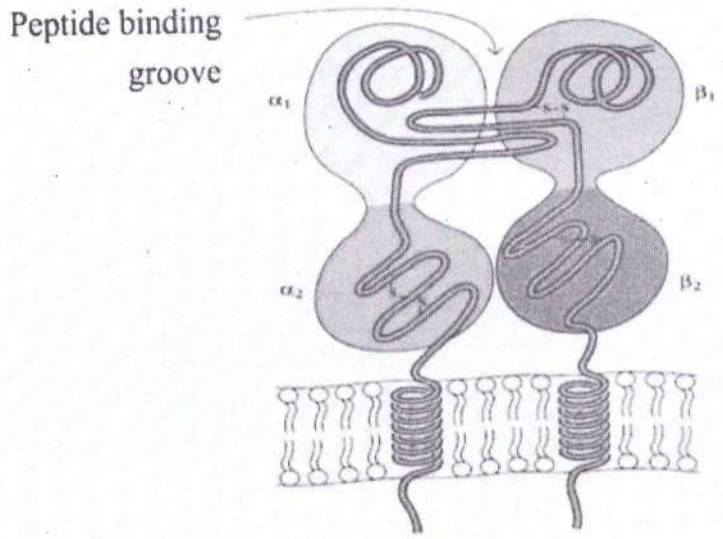


Structure of MHC Molecule Class I

- It consists two polypeptide chains namely a chain and ß2 - microglobulin.
- a chain which is non covalently attached with ß2 microglobuline.
- a chain contain a transmembrane glycoprotein which is encoded by A,B and C geneof grouped HLA.
- a chain is organized by three domains such as a 1, a 2 and a 3 each domain containing 90 amino acids sequences.
- B2 microglobuline is similar in size of a 3 and it dose not contain transmembrane proteins.
- When the antigen is internalized and processed inside by proteosome (Ubiquitin, cytosolic degradation), the peptides are produced.
- Peptide is further loaded on the groove of MHC I molecules from endoplasmic reticulum.

MHC Molecule Class II

- Class II MHC molecule are present on the surface of antigen presenting cell and cell which engulfed the foreign antigen.
- It binds with the exogenous (endocytic degradation)antigens.
- It binds with CD4 adhesion molecules TH cells.
- It also consist of two polypeptide chains namely a chain and ß chain.
- Antigen is processed inside the endosome and peptide is further loaded on groove of MHC II molecules.



Structure of MHC Molecule Class II

- The class II MHC Molecule consists of two polypeptide chain namely a chain (33 kDa) and B (28kDa) chain.
- The both chain are attached noncovelantly.
- Each chain contains two units. The two units of a chain are called al and a2. The two domains of ß chains are called ß1 and ß2.
- B2 and a2 are transmembrane domains anchoring the MHC to plasma membrane.
- The a1 and ß1 domains jointly bear a peptide binding groove.

Functions of MHC Molecules

- MHC molecules are loaded with a bit of sample peptide fragment derived from the degradation of proteins present inside the cell. This peptide is the mirror image of proteins present inside the cell.
- MHC molecules contain self as well as nonself (foreign) antigen.
- They bring about defense against infections and diseases.
- They mediate certain autoimmune diseases.
- They are responsible for individual smell of people.

THANK YOU