

“Dissemination of Education for Knowledge, Science and Culture”

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

**Vivekanand College, Kolhapur**  
**(An Empowered Autonomous Institute)**

**Department of Zoology**

**Academic year: 2024-25**

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**B.Sc. III Semester V**

**STUDENTS SEMINAR**

**29/08/2024-30/08/2024**



**Academic Year: 2024- 2025**

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**Department of Zoology**

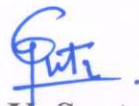
**Academic year: 2024-25**

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**Dr. G. K. Sontakke**  
**HEAD**  
**DEPARTMENT OF ZOOLOGY**  
**VIVEKANAND COLLEGE, KOLHAPUR**  
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**Vivekanand College, Kolhapur (Empowered Autonomous)**  
**Department of Zoology**  
Academic year-2023-2024

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**B. Sc. III**  
**Student Seminar**

**Date: 11/07/2024**

**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 **Molecular Biology and Biotechniques** and **Animal Biotechnology**. 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- 2024-25

**B. Sc. III Students Project**

Date: 10/07/2024

**List of student and Seminar Topic- Molecular Biology and Biotechniques & Animal Biotechnology**

| Sr. No. | Names of Student              | Seminar Topic                                   | Date       | Signature     |
|---------|-------------------------------|-------------------------------------------------|------------|---------------|
| 1       | Abrange Vaishnavi Vinod       | DNA replication in Prokaryotes                  | 29/08/2024 | V.V. Abrange  |
| 2       | Dindayal Prabodhini Raju      | DNA replication in Eukaryotes                   | 29/08/2024 | P.A. Dindayal |
| 3       | Jadhav Suyash Kuber           | Transcription in Prokaryotes                    | 29/08/2024 |               |
| 4       | Kamble Rutuja Vishal          | Transcription in Prokaryotes                    | 29/08/2024 | R. Kamble     |
| 5       | Katkar Siddhi Sanjay          | Cloning vector: Plasmid Vector                  | 29/08/2024 | S. Katkar     |
| 6       | Kukade Priyanka Sandeep       | Cloning vector: Plasmid Vector                  | 29/08/2024 | P. Kukade     |
| 7       | Mansuri Sahida Allauddin      | Southern Blotting                               | 29/08/2024 | M. Mansuri    |
| 8       | Mishra Shambhavi Mukesh Kumar | Western Blotting                                | 29/08/2024 | S. Mishra     |
| 9       | Mitake Komal Anil             | Polymerase chain reaction                       | 29/08/2024 | K. Mitake     |
| 10      | Mulla Mahamadkaif Shahanul    | DNA Finger printing                             | 29/08/2024 | M. Mulla      |
| 11      | Nayakavadi Ashiya Riyaj       | Laminar Air Flow and CO <sub>2</sub> incubator  | 29/08/2024 | A. Nayakavadi |
| 12      | Patil Pradnya Rajendra        | Phase Contrast Microscope                       | 29/08/2024 | P. Patil      |
| 13      | Raje Shruti Sudarshan         | Fluorescence Microscope                         | 29/08/2024 | S. Raje       |
| 14      | Rathod Sonali Ramesh          | Types of Media- Natural Media                   | 29/08/2024 | S. Rathod     |
| 15      | Sayyad Afroja Aslam           | Sterilization: Physical Method                  | 29/08/2024 | A. Sayyad     |
| 16      | Shaikh Ayesha Aslam           | Sterilization: Chemical Method                  | 29/08/2024 | A. Shaikh     |
| 17      | Singh Priya Gopal             | Stem cells                                      | 29/08/2024 | P. Singh      |
| 18      | Ustad Rifat Nasirkhan         | rDNA Technology in production of insulin        | 29/08/2024 | R. Ustad      |
| 19      | Cougule Shraddha              | rDNA Technology in production of Growth Hormone | 29/08/2024 | S. Cougule    |
| 20      |                               |                                                 |            |               |
| 21      |                               |                                                 |            |               |

  
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Academic year-2023-2024

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**B. Sc. III**  
**Student Seminar**

**Date: 11/07/2024**

**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 **Developmental Biology I** and **Developmental Biology II** 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- 2024-25

**B. Sc. III Students Project**

**Date: 10/07/2024**

**List of student and Seminar Topic- Developmental Biology I and II**

| Sr. No. | Names of Student              | Seminar Topic                            | Date       | Signature             |
|---------|-------------------------------|------------------------------------------|------------|-----------------------|
| 1       | Abrange Vaishnavi Vinod       | Male Reproductive System                 | 30/08/2024 | <i>vv. Abrange</i>    |
| 2       | Dindayal Prabodhini Raju      | Female Reproductive System               | 30/08/2024 | <i>PR. Dindayal</i>   |
| 3       | Jadhav Suyash Kuber           | Spermatogenesis                          | 30/08/2024 | <i>Suyash</i>         |
| 4       | Kamble Rutuja Vishal          | Oogenesis                                | 30/08/2024 | <i>Rutuja</i>         |
| 5       | Katkar Siddhi Sanjay          | Internal Fertilization in Mammals        | 30/08/2024 | <i>Siddhi</i>         |
| 6       | Kukade Priyanka Sandeep       | Morulation and Blastulation              | 30/08/2024 | <i>Priyanka</i>       |
| 7       | Mansuri Sahida Allauddin      | Morphogenetic cell movement              | 30/08/2024 | <i>M. Sahida</i>      |
| 8       | Mishra Shambhavi Mukesh Kumar | Types of Placenta-on basis of morphology | 30/08/2024 | <i>Shambhavi</i>      |
| 9       | Mitake Komal Anil             | Types of placenta- on basis of Histology | 30/08/2024 | <i>Komal</i>          |
| 10      | Mulla Mahamadkaif Shahanul    | Specification- Autonomous                | 30/08/2024 | <i>M. Mahamadkaif</i> |
| 11      | Nayakavadi Ashiya Riyaj       | Specification- Conditional               | 30/08/2024 | <i>Ashiya</i>         |
| 12      | Patil Pradnya Rajendra        | Structure of Sperm and ovum in chick     | 30/08/2024 | <i>Pradnya</i>        |
| 13      | Raje Shruti Sudarshan         | Regeneration in Lizard                   | 30/08/2024 | <i>Shruti</i>         |
| 14      | Rathod Sonali Ramesh          | Intercellular communication              | 30/08/2024 | <i>Sonali</i>         |
| 15      | Sayyad Afroja Aslam           | Morphogen Concept & Properties           | 30/08/2024 | <i>Afroja</i>         |
| 16      | Shaikh Ayesha Aslam           | Specification- Syncytial                 | 30/08/2024 | <i>Ayesha</i>         |
| 17      | Singh Priya Gopal             | Fertilization and cleavage               | 30/08/2024 | <i>Priya</i>          |
| 18      | Ustad Rifat Nasirkhan         | Organizer- Eye development               | 30/08/2024 | <i>Rifat</i>          |
| 19      | Chougule Shraddha             | Process of organogenesis                 | 30/08/2024 | <i>Shraddha</i>       |
| 20      |                               |                                          |            |                       |
| 21      |                               |                                          |            |                       |

*Gita*  
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**Vivekanand College, Kolhapur (Empowered Autonomous)**  
Department of Zoology  
B. Sc. III Semester-V

Date: 23/08/24

Attendance of Seminar for Paper IX & X

| Sr. No. | Roll No. | Name of the Student           | Signature           |
|---------|----------|-------------------------------|---------------------|
| 1.      | 8341     | Abrange Vaishnavi Vinod       | <i>V.V. Abrange</i> |
| 2.      | 8342     | Chougule Shraddha Shivaji     | <i>Shraddha</i>     |
| 3.      | 8343     | Dindayal Prabodhini Raju      | <i>PR. Dindayal</i> |
| 4.      | 8344     | Jadhav Suyash Kuber           | <i>SK</i>           |
| 5.      | 8345     | Kamble Rutuja Vishal          | <i>Rutuja</i>       |
| 6.      | 8346     | Katkar Siddhi Sanjay          | <i>Siddhi</i>       |
| 7.      | 8347     | Kukade Priyanka Sandeep       | <i>PK</i>           |
| 8.      | 8348     | Mansuri Sahida Allauddin      | <i>M. Sahido</i>    |
| 9.      | 8349     | Mishra Shambhavi Mukesh Kumar | <i>Shambhavi</i>    |
| 10.     | 8350     | Mitake Komal Anil             | <i>KM</i>           |
| 11.     | 8351     | Mulla Mahamadkaif Shahanul    | <i>Mulla</i>        |
| 12.     | 8352     | Nayakavadi Ashiya Riyaj       | <i>Ashiya</i>       |
| 13.     | 8353     | Patil Pradnya Rajendra        | <i>Pradnya</i>      |
| 14.     | 8354     | Raje Shruti Sudarshan         | <i>Raje</i>         |
| 15.     | 8355     | Rathod Sonali Ramesh          | <i>Rathod</i>       |
| 16.     | 8356     | Sayyad Afroja Aslam           | <i>Sayyad</i>       |
| 17.     | 8357     | Shaikh Ayesha Aslam           | <i>Ayesha</i>       |
| 18.     | 8358     | Singh Priya Gopal             | <i>Priya</i>        |
| 19.     | 8359     | Ustad Rifat Nasirkhan         | <i>Ustad</i>        |

*G.K.*

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**Vivekanand College, Kolhapur (Empowered Autonomous)**  
Department of Zoology  
B. Sc. III Semester-V

Date: 30/08/24

Attendance of Seminar for Paper XI & XII

| Sr. No. | Roll No. | Name of the Student           | Signature         |
|---------|----------|-------------------------------|-------------------|
| 1.      | 8341     | Abrange Vaishnavi Vinod       | V.V. Abrange      |
| 2.      | 8342     | Chougule Shraddha Shivaji     | Shraddha Chougule |
| 3.      | 8343     | Dindayal Prabodhini Raju      | P.R. Dindayal     |
| 4.      | 8344     | Jadhav Suyash Kuber           | S.K.              |
| 5.      | 8345     | Kamble Rutuja Vishal          | Rutuja Kamble     |
| 6.      | 8346     | Katkar Siddhi Sanjay          | S.S.              |
| 7.      | 8347     | Kukade Priyanka Sandeep       | P.K.              |
| 8.      | 8348     | Mansuri Sahida Allauddin      | M. Sahida         |
| 9.      | 8349     | Mishra Shambhavi Mukesh Kumar | Shambhavi         |
| 10.     | 8350     | Mitake Komal Anil             | K.M.              |
| 11.     | 8351     | Mulla Mahamadkaif Shahanul    | M.S.              |
| 12.     | 8352     | Nayakavadi Ashiya Riyaj       | Ashiya Nayakavadi |
| 13.     | 8353     | Patil Pradnya Rajendra        | P.R.              |
| 14.     | 8354     | Raje Shruti Sudarshan         | S.R.              |
| 15.     | 8355     | Rathod Sonali Ramesh          | S.R.              |
| 16.     | 8356     | Sayyad Afroja Aslam           | A.S.              |
| 17.     | 8357     | Shaikh Ayesha Aslam           | A.S.              |
| 18.     | 8358     | Singh Priya Gopal             | P.G.              |
| 19.     | 8359     | Ustad Rifat Nasirkhan         | R.N.              |

Gur.

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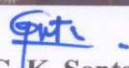
**Department of Zoology**

**Academic Year 2024-25**

Date: 29/08/2024-30/08/2024

**B.Sc.III Sem V: Students Seminar**



  
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DEPARTMENT OF ZOOLOGY

VIVEKANAND COLLEGE, KOLHAPUR



## Male Reproduction

- The male reproductive system consist of a number of sex organs that play a role in the process of human reproduction.
- It includes a group of organs that makes the reproductive system and urinary system in human (Male).
- Male reproductive system consist of internal and external parts.
- Internal parts are inside the body and external parts are outside the body.
- Together, these organs help in urination and reproduction.

### Functions

1. Secretion of seminal fluid.
2. Nourishing, activation of sperms.
3. Protection of sperms.

There are 4 main components of reproductive system.

1. External Genitalia: Penis
2. Reproductive Tract: Epididymis, Vas Deferens also called Ductus Deferens, spermatic cord, Urethra.
3. Accessory sex Glands: Seminal vesicle, Prostate gland, Bulbourethral glands.
4. Primary sex organ: Testis.

### External Genitalia -

1. Penis: It is the male sexual intercourse organ. It has three parts.
  - The root - The root is the base of your penis. It attaches to the wall of abdomen.
  - Body (shaft) - The body has a shape like a tube or cylinder. It consist of three internal chambers: the two larger chambers are the corpora cavernosa and the third chamber is the corpus spongiosum. These chambers are made up of special, sponge-like erectile tissue. The tissue contains thousands of spaces. During sexual arousal, the spaces fill with blood, and penis becomes hard and rigid. An erection allows to have penetrative sex. The skin of the penis is



loose and elastic to allow for changes in penis size during an erection.

- **Glans (Head)** : The glans is the cone-shaped tip of the penis. A loose layer of skin (foreskin) covers the glans. Health care providers sometimes surgically remove the foreskin.

[Reason - If it is thick for a long time, it cause pain and swelling. It also block blood flow to your penis, which can cause tissue to die].

2. **Semen** : It is fluid which contains sperm, is expelled (ejaculated) through the end of the penis when the man reaches sexual climax. When the penis is erect, the flow of urine is blocked from the urethra, allowing only semen to be ejaculated at orgasm.
3. **Scrotum** : The scrotum is the loose, pouch like sac of skin that hangs behind the penis. It holds the testicles as well as nerves and blood vessels. The scrotum has a protective function and acts as a climate control system. For normal sperm development, the testes must have temperature slightly cooler than the body temperature (between 97 & 99 degrees Fahrenheit or 36 & 37 degrees Celsius). Special muscles in the wall of the scrotum let it contract (tighten) and relax. Your scrotum contracts to move your testicles closer to your body for warmth and protection. It relaxes away from your body to cool them.
4. **Testicles** : The testicles are oval-shaped organs that lie in your scrotum. They're about the size of two large olives. The spermatic cord holds the testicles in place and supplies them with blood. The testicles make testosterone and produce sperm. Within the testicles are coiled masses of tubes. These are the seminiferous tubules produce sperm cells through spermatogenesis.



## The internal male reproductive organs.

1. **Epididymis:** The epididymis is a long, coiled tube that rests on the back of each testicle. It carries and stores the sperm cells that your testicles create. The epididymis also brings the sperm to maturity, since the sperm that emerge from the testicles are immature and incapable of fertilization. During sexual arousal, muscle contractions force the sperm into the vas deferens.
2. **Vas deferens:** The vas deferens is a long, muscular tube that travels from the epididymis into the pelvic cavity, just behind the urinary bladder. The vas deferens transports mature sperm to the urethra in preparation for ejaculation.
3. **Ejaculatory ducts:** Each testicle has a vas deferens that joins with seminal vesicle ducts to form ejaculatory ducts. The ejaculatory ducts move through your prostate, where they collect fluid to add to semen. They empty into your urethra.
4. **Urethra:** The urethra is the tube that carries pee from your bladder outside of your body. If you have a penis, it also ejaculates semen when you reach orgasm.
5. **Seminal vesicles:** The seminal vesicles are sac-like pouches that attach to the vas deferens near the base of the bladder. Seminal vesicles make up to 80% of your ejaculatory fluid, including fructose. Fructose is an energy source for sperm and helps them move (motility).
6. **Prostate gland:** The prostate is a walnut-sized gland that rests below your bladder, in front of your rectum. The prostate adds additional fluid to ejaculate, which helps nourish sperm. The urethra runs through the center of the prostate gland.
7. **Bulbourethral glands:** The bulbourethral glands are pea-sized structures on the sides of your urethra, just below your prostate. They create a clear, slippery fluid that empties directly into the urethra. The fluid lubricates the urethra and



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**Department of Zoology**

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**B. Sc. III, Sem. VI**  
**STUDENTS SEMINAR**  
**(20/01/25 - 21/01/2025)**



**Academic Year: 2024-2025**



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**Department of Zoology**

**Academic Year 2024-25**

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**B. Sc. III**

**Date: 26/11/2024**

**Student Seminar**

**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 **Immunology I** and **Immunology II**. It is compulsory to deliver seminar with PowerPoint (PPT). Schedule of seminar is given below, follow the schedule, prepare the PPT for allotted topic and complete your seminar. Submit Abstract and PPT before one day of seminar to the Zoology Department.



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Department of Zoology

Academic year-2024-2025

Date: 26/11/2024

**List of B. Sc. III student and Seminar Topic- Immunology I and Immunology II**

| Sr. No. | Roll No. | Seminar Topic                 | Topic of Seminar                                             | Date       | Signature     |
|---------|----------|-------------------------------|--------------------------------------------------------------|------------|---------------|
| 1       | 8341     | Abrange Vaishnavi Vinod       | Innate immunity-physical and physiological barrier           | 20/01/2025 | W Abrange     |
| 2       | 8342     | Chougule Shraddha Shivaji     | Innate immunity -Cellular and Cytokine barrier               | 20/01/2025 | Shraddha      |
| 3       | 8343     | Dindayal Prabodhini Raju      | adaptive immunity- features of adaptive immunity             | 20/01/2025 | P.R. Dindayal |
| 4       | 8344     | Jadhav Suyash Kuber           | Cells in immune system- (B lymphocytes, T- lymphocytes)      | 20/01/2025 | SA            |
| 5       | 8345     | Kamble Rutuja Vishal          | Antigens: Basic properties of antigens                       | 20/01/2025 | Ranjana       |
| 6       | 8346     | Katkar Siddhi Sanjay          | IgM Structure, classes and function of antibodies.           | 20/01/2025 | Siddhi        |
| 7       | 8347     | Kukade Priyanka Sandeep       | granulocytic cells- neutrophils, eosinophils, basophils,     | 20/01/2025 | Priyanka      |
| 8       | 8348     | Mansuri Sahida Allauddin      | Hybridoma technology,                                        | 20/01/2025 | M. Sahido     |
| 9       | 8349     | Mishra Shambhavi Mukesh Kumar | Secondary lymphoid organ- lymph node, spleen                 | 20/01/2025 | Shambhavi     |
| 10      | 8350     | Mitake Komal Anil             | Organs of immune system- Primary lymphoid organ- bone marrow | 20/01/2025 | Komal         |
| 11      | 8351     | Mulla Mahamadkaif Shahanul    | Live attenuated vaccine                                      | 20/01/2025 | Mulla         |
| 12      | 8352     | Nayakavadi Ashiya Riyaj       | Inactivated vaccine                                          | 20/01/2025 | Ashiya        |
| 13      | 8353     | Patil Pradnya Rajendra        | Toxoid vaccine                                               | 20/01/2025 | Pradnya       |
| 14      | 8354     | Raje Shruti Sudarshan         | Exogenous pathway of antigen presentation and processing     | 20/01/2025 | Raje          |
| 15      | 8355     | Rathod Sonali Ramesh          | Endogenous pathway of antigen presentation and processing    | 20/01/2025 | Rathod        |
| 16      | 8356     | Sayyad Afroja Aslam           | Type I hypersensitivity                                      | 20/01/2025 | Sayyad        |
| 17      | 8357     | Shaikh Ayesha Aslam           | Type II hypersensitivity                                     | 20/01/2025 | Shaikh        |
| 18      | 8358     | Singh Priya Gopal             | Complement system- Classical pathway                         | 20/01/2025 | Singh         |
| 19      | 8359     | Ustad Rifat Nasirkhan         | Complement system- Alternate pathway                         | 20/01/2025 | Ustad         |

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**B. Sc. III**  
**Student Seminar**

**Date: 26/11/2024**

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**DEPARTMENT OF ZOOLOGY**  
**VIVEKANAND COLLEGE, KOLHAPUR**  
**(EMPOWERED AUTONOMOUS)**



"Dissemination of Education for Knowledge, Science and Culture"

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Department of Zoology

Academic year-2024-2025

Date: 26/11/2024

**List of B. Sc. III student and Seminar Topic- Ecology, Toxicology and Aquatic Biology**

| Sr. No. | Roll No. | Seminar Topic                 | Topic of Seminar                                                    | Date       | Signature    |
|---------|----------|-------------------------------|---------------------------------------------------------------------|------------|--------------|
| 1       | 8341     | Abrange Vaishnavi Vinod       | Types ecosystem                                                     | 21/01/2025 | V.Abrange    |
| 2       | 8342     | Chougule Shraddha Shivaji     | Abiotic and biotic components                                       | 21/01/2025 | S.Chougule   |
| 3       | 8343     | Dindayal Prabodhini Raju      | Zonation of sea & ocean                                             | 21/01/2025 | P.R.Dindayal |
| 4       | 8344     | Jadhav Suyash Kuber           | Food chain, food web                                                | 21/01/2025 | S.Jadhav     |
| 5       | 8345     | Kamble Rutuja Vishal          | Ecological pyramids,                                                | 21/01/2025 | R.Kamble     |
| 6       | 8346     | Katkar Siddhi Sanjay          | Species interactions-types of interaction (competition, predation   | 21/01/2025 | S.Katkar     |
| 7       | 8347     | Kukade Priyanka Sandeep       | Species interactions-types of interaction commensalism, parasitism, | 21/01/2025 | P.Kukade     |
| 8       | 8348     | Mansuri Sahida Allauddin      | Ecological succession -Types of succession                          | 21/01/2025 | M.Mansuri    |
| 9       | 8349     | Mishra Shambhavi Mukesh Kumar | Types of seres-hydrosere                                            | 21/01/2025 | S.Mishra     |
| 10      | 8350     | Mitake Komal Anil             | Ecological adaptation in aquatic- animals                           | 21/01/2025 | K.Mitake     |
| 11      | 8351     | Mulla Mahamadkaif Shahanul    | Freshwater ecosystem (wetlands                                      | 21/01/2025 | M.Mulla      |
| 12      | 8352     | Nayakavadi Ashiya Riyaj       | Origin and classification Ponds                                     | 21/01/2025 | A.Nayakavadi |
| 13      | 8353     | Patil Pradnya Rajendra        | Nutrient cycling -nitrogen                                          | 21/01/2025 | P.Patil      |
| 14      | 8354     | Raje Shruti Sudarshan         | Nutrient cycling -phosphorus                                        | 21/01/2025 | S.Raje       |
| 15      | 8355     | Rathod Sonali Ramesh          | Eutrophication                                                      | 21/01/2025 | S.Rathod     |
| 16      | 8356     | Sayyad Afroja Aslam           | Estuaries: Characteristics & types                                  | 21/01/2025 | A.Sayyad     |
| 17      | 8357     | Shaikh Ayesha Aslam           | Nutrient cycling- phosphorus                                        | 21/01/2025 | A.Shaikh     |
| 18      | 8358     | Singh Priya Gopal             | Nutrient cycling - Sulphur                                          | 21/01/2025 | P.Singh      |
| 19      | 8359     | Ustad Rifat Nasirkhan         | Coral & coral reefs: Types                                          | 21/01/2025 | R.Ustad      |

*G.K. Sontakke*

Dr. G. K. Sontakke

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Department of Zoology

Academic year-2024-2025

**B. Sc. III  
Student Seminar  
Attendance**

| Sr. No. | Roll No. | Seminar Topic                 | Signature<br>Date: 20/11/25 | Signature<br>Date: 21/11/25 |
|---------|----------|-------------------------------|-----------------------------|-----------------------------|
| 1       | 8341     | Abrange Vaishnavi Vinod       | V.V. Abrange                | V.V. Abrange                |
| 2       | 8342     | Chougule Shraddha Shivaji     | Shraddha                    | Shraddha                    |
| 3       | 8343     | Dindayal Prabodhini Raju      | P.R. Dindayal               | P.R. Dindayal               |
| 4       | 8344     | Jadhav Suyash Kuber           | SJ                          | SJ                          |
| 5       | 8345     | Kamble Rutuja Vishal          | R. Kamble                   | R. Kamble                   |
| 6       | 8346     | Katkar Siddhi Sanjay          | Ab                          | Ab                          |
| 7       | 8347     | Kukade Priyanka Sandeep       | PK                          | PK                          |
| 8       | 8348     | Mansuri Sahida Allauddin      | M. Sahida                   | M. Sahida                   |
| 9       | 8349     | Mishra Shambhavi Mukesh Kumar | Shambhavi                   | Shambhavi                   |
| 10      | 8350     | Mitake Komal Anil             | KAM                         | KAM                         |
| 11      | 8351     | Mulla Mahamadkaif Shahanul    | Ab                          | Ab                          |
| 12      | 8352     | Nayakavadi Ashiya Riyaj       | Ab                          | Ab                          |
| 13      | 8353     | Patil Pradnya Rajendra        | Ab                          | Ab                          |
| 14      | 8354     | Raje Shruti Sudarshan         | Ab                          | Ab                          |
| 15      | 8355     | Rathod Sonali Ramesh          | Rathod                      | Rathod                      |
| 16      | 8356     | Sayyad Afroja Aslam           | Sayyad                      | Sayyad                      |
| 17      | 8357     | Shaikh Ayesha Aslam           | Shaikh                      | Shaikh                      |
| 18      | 8358     | Singh Priya Gopal             | Singh                       | Singh                       |
| 19      | 8359     | Ustad Rifat Nasirkhan         | Ustad                       | Ustad                       |

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Department of Zoology  
**Vivekanand College, Kolhapur**  
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Name : **Shraddha Shivaji Chougule**

Roll no.: 8342

Seminar topic : Innate Immunity - Cellular and Cytokine Barrier

# Immunity

*The ability of host body to fight/defend against disease causing organisms, conferred by the immune system.*

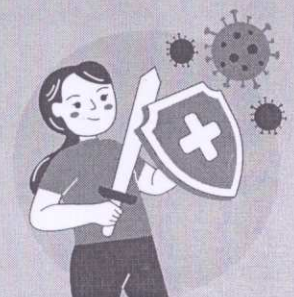
**a. Innate immunity :** It is an ability to fight against pathogens which is present since birth.

- It is non-specific
- 1st line of defense (external defense)
- 2nd line of defense (internal defense)

**b. Acquired immunity :**

It is an ability of fight pathogens which is developed over a period

- It is specific and has memory
- 3rd line of defense (antibodies involved)





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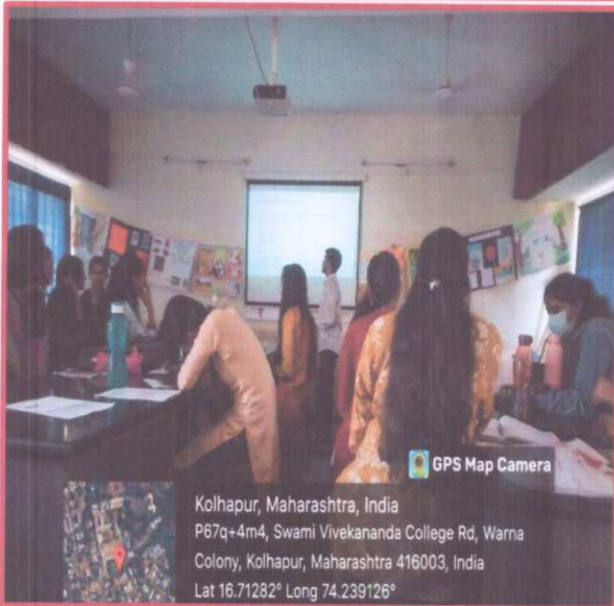
PHOTOPLATE

B. Sc. III STUDENT SEMINAR



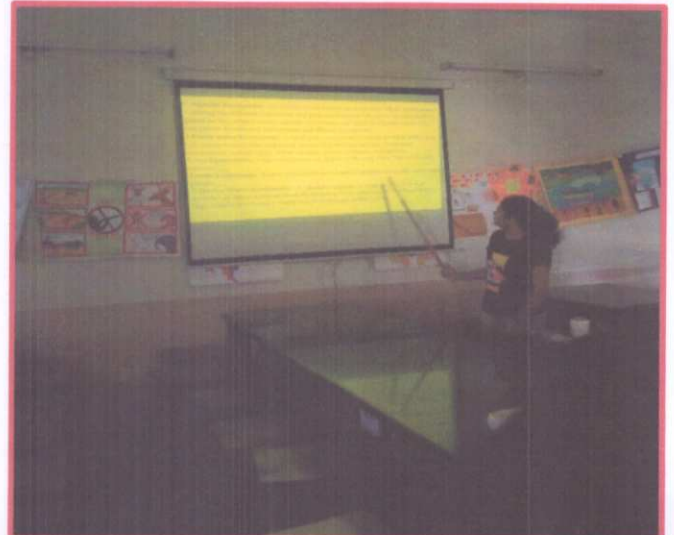
GPS Map Camera

Kolhapur, Maharashtra, India  
P67q+4m4, Swami Vivekananda College Rd, Warna  
Colony, Kolhapur, Maharashtra 416003, India  
Lat 16.712856° Long 74.239052°



GPS Map Camera

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Colony, Kolhapur, Maharashtra 416003, India  
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Dr. G. S. <sup>Sute</sup> ~~HEAD~~ <sup>Antakke</sup>

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