

DYAL SINGH COLLEGE, KARNAL

B.Sc. Medical

Subject: Zoology

Programme Outcomes (POs) for Three Year B.Sc. Programme of Faculty of Life Sciences

| | | |
|-----|--------------------------------|---|
| PO1 | Knowledge | To inculcate theoretical and practical knowledge in fundamentals of biology. |
| PO2 | Problem Solving | To instil the ability to critically evaluate problems and apply lateral thinking and analytical skills in solving them. |
| PO3 | Ethics | To create awareness ethical principles, professional responsibilities good scientific practices and biosafety. |
| PO4 | Communication | To develop communication skills and be able to communicate effectively on general and scientific topics. |
| PO5 | Employability | To prepare the students for career in teaching, research, industry, government organizations and entrepreneurship. |
| PO6 | Environment and Sustainability | To sensitize the students about the current environmental scenario and promote a mindset of sustainable development. |
| PO7 | Science and Society | To develop an aptitude to apply the knowledge of the scientific principles for the benefit of society. |
| PO8 | Modern Tool usage | To inculcate the ability to use and learn modern techniques, skills and tools for scientific practices |
| PO9 | Life-Long Learning | To develop the capacity to apply knowledge and skills that are essential for participating in learning activities throughout the life |

Programme Specific Outcomes (PSOs) for Zoology subject of Three Year B.Sc. Medical/ M.Sc. Forensic Science

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|------|--|
| PSO1 | Understand the various aspects of the life cycles/biology of the animal species around them and their interaction with the environment. |
| PSO2 | Gain knowledge of the physiological processes at the cellular and organismic levels. |
| PSO3 | Use understanding of subject and analytical methods in identifying and solving various complex situations of living forms and environment. |
| PSO4 | Awareness of natural resources and their sustainable utilization. |
| PSO5 | Encourage skillfull expertise for a career as teacher, in industry or as entrepreneur in the realms of the subject. |

SEMESTER-I

B-ZOO-101: Life and Diversity from Protozoa to Porifera and Cell Biology-I

Objective: To understand the taxonomic position, general characteristics, body organization and origin and evolutionary relationship of animals belonging to the invertebrate phyla Protozoa and Porifera and the dynamics of cell.

Course outcomes:

CO101.1 Students will be able to describe unique characters, recognize life functions, diversity and ecological role of invertebrate phyla Protozoa and Porifera

CO101.2 Students will understand the nature and basic concept of cell biology, internal structure of cell and their role in many metabolic function of organism

B-ZOO-102: Life and Diversity from Coelentrata to Helminthes and Cell Biology-II

Objective: To understand the taxonomic position, general characteristics, body organization and origin and evolutionary relationship of animals belonging to the invertebrate phyla Coelenterate and Helminthes and the dynamics of cell and biology of cancer.

Course outcomes:

CO102.1 Students will be able to describe unique characters, recognize life functions, diversity and ecological role of invertebrate phyla Coelenterate and Helminthes

CO102.2 Students will understand the nature and basic concept of cell biology, internal structure of cell and their role in many metabolic function of organism and biology of cancer

CO-PO and CO-PSO Mapping Matrix for Semester I - Zoology

| B-ZOO-101 | | Life and Diversity from Protozoa to Porifera and Cell Biology-I | | | | | | | | | | | | |
|--------------------------|----------|---|----------|----------|----------|------------|----------|-------------|----------|------------------------------------|----------|----------|----------|------------|
| B-ZOO-102 | | Life and Diversity from Coelentrata to Helminthes and Cell Biology-II | | | | | | | | | | | | |
| Programme Outcomes (POs) | | | | | | | | | | Programme Specific Outcomes (PSOs) | | | | |
| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO101.1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 2.5 |
| CO101.2 | 3 | 2.5 | 2 | 2 | 2 | 1 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 2 |
| CO102.1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 3 |
| CO102.2 | 3 | 2.5 | 2 | 2 | 2 | 1 | 3 | 1.5 | 2 | 3 | 3 | 2 | 2 | 2.5 |
| Average | 3 | 2.25 | 2 | 2 | 2 | 1.5 | 3 | 1.12 | 2 | 3 | 3 | 2 | 2 | 2.5 |

SEMESTER-II

B-ZOO-201: Life and Diversity from Annelida to Arthropoda and Genetics-I

Objective: To understand the taxonomic position, general characteristics, body organization and origin and evolutionary relationship of animals belonging to the invertebrate phyla Annelida and Arthropoda and various concepts of genetics.

Course outcomes:

- CO201.1 Students will be able to describe unique characters, recognize life functions, diversity and ecological role of invertebrate phyla Annelida and Arthropoda
- CO201.2 Students will have the understanding of the concept of heredity, gene interactions, sex determination, sex linked and extra-chromosomal inheritance and their role in medical sciences.

B-ZOO-202: Life and Diversity from Mollusca to Hemichordata and Genetics-II

Objective: To understand the taxonomic position, general characteristics, body organization and origin and evolutionary relationship of animals belonging to the invertebrate phyla Mollusca to Hemichordata

Course outcomes:

- CO202.1 Students will be able to describe unique characters, recognize life functions, diversity and ecological role of invertebrate phyla Mollusca to Hemichordata
- CO202.2 Students will be able to explain the basic causes associated with inborn errors and other genetic disorders.

B-ZOO-203: Practical based on Theory Papers of Semester I & II

Objective: To have practical knowledge about identification and understanding of the classification of invertebrates phyla from Protozoa up to Hemichordata and develop the laboratory skill of preparing slides of cell divisions

Course outcomes:

- CO203.1 Students will be capable of identifying the characters and classify different invertebrate species and explain their ecological and economic importance.
- CO203.2 Students will be able to demonstrate cell division

CO-PO and CO-PSO Mapping Matrix for Semester II - Zoology

| B-ZOO-201 | | Life and Diversity from Annelida to Arthropoda and Genetics-I | | | | | | | | | | | | |
|--------------------------|-----|--|------|-----|------|------|-----|------|-----|------------------------------------|------|------|------|------|
| B-ZOO-202 | | Life and Diversity from Mollusca to Hemichordata and Genetics-II | | | | | | | | | | | | |
| B-ZOO-203 | | Practical based on Theory Papers of Semester I & II | | | | | | | | | | | | |
| Programme Outcomes (POs) | | | | | | | | | | Programme Specific Outcomes (PSOs) | | | | |
| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO201.1. | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 2.5 |
| CO201.2. | 3 | 2.5 | 2 | 2 | 2 | 1 | 3 | 1 | 2 | 3 | 3 | 2 | 1 | 2.5 |
| CO202.1. | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 2.5 |
| CO202.2. | 3 | 2.5 | 2 | 2 | 2 | 1 | 3 | 1 | 2 | 3 | 3 | 2 | 1 | 2.5 |
| CO203.1. | 3 | 1.5 | 2.5 | 2 | 2.5 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2.5 |
| CO203.2. | 3 | 2.5 | 2.5 | 2 | 2.5 | 1.5 | 3 | 2.5 | 2 | 3 | 3 | 2 | 1 | 2.5 |
| Average | 3 | 2.16 | 2.16 | 2 | 2.16 | 1.58 | 3 | 1.41 | 2 | 3 | 3 | 2 | 1.5 | 2.5 |

SEMESTER-III

B-ZOO-301: Life and Diversity of Chordates-I

Objective: To make students appreciate the basic characters of Chordates, origin and ancestry of chordates from proto-chordates and about the general characters in class Pisces.

Course outcomes:

- CO301.1 Students will be capable of identifying the characters and classify different proto-chordate species and explain their ecological and ecological adaptations and associations.
- CO301.2 Students will be able to explain the basic concepts of evolutionary relationship among proto-chordates and fishes.

B-ZOO-302: Mammalian Physiology-I

Objective: To make students understand the structure and classification of bio-molecules, dynamics of enzymes and concept of physiology of bones and muscles.

Course outcomes:

- CO302.1 Students will be able to appreciate and explain the mechanisms of the human body functions.
- CO302.2 Students will be able to understand and explain the various physiological and biochemical processes of the human body.

CO-PO and CO-PSO Mapping Matrix for Semester III - Zoology

| B-ZOO-301 | | Life and Diversity of Chordates-I | | | | | | | | | | | | |
|--------------------------|-----|-----------------------------------|-----|------|------|-----|------|------|-----|------------------------------------|------|------|------|------|
| B-ZOO-302 | | Mammalian Physiology-I | | | | | | | | | | | | |
| Programme Outcomes (POs) | | | | | | | | | | Programme Specific Outcomes (PSOs) | | | | |
| COs# | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO301.1. | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 3 | 2 | 3 | 3 |
| CO301.2. | 2 | 1 | 2 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 2 | 3 | 2 |
| CO302.1. | 3 | 1 | 1 | 2 | 2.5 | 2 | 3 | 1.5 | 2 | 3 | 3 | 3 | 1 | 3 |
| CO302.2. | 2 | 1 | 1 | 2 | 2.5 | 2 | 3 | 1.5 | 2 | 3 | 3 | 3 | 1 | 3 |
| Average | 2.5 | 1.25 | 1.5 | 1.75 | 2.25 | 2 | 2.25 | 1.25 | 2 | 3 | 2.75 | 2.5 | 2 | 2.75 |