

Binod Bihari Mahto Koyalanchal University, Dhanbad
Four Years Undergraduate Programm
Subject: Zoology
NEP UG Syllabus
Semester I
Paper: Minor

Minor-1 (Practical) (MN-1P) Animal Classification & Diversity and Cell Biology

Credit-2

Practical Lecture-30 Hours

Full Marks= 25

| Sl. No | Practical | Marks Distribution |
|--------|--|--------------------|
| 1 | Slide Preparation (Mounting) | 04 |
| 2 | Study on the stages of Mitosis through slides | 04 |
| 3 | Spotting | 08 |
| | a. Museum Specimen (3) | |
| | b. Slides (Eukaryotic & Prokaryotic Cells) (1) | |
| 4 | Class record | 04 |
| 5 | Viva voce | 05 |
| | Total | 25 |

Suggested Practical

Animal Classification and Diversity

1. Mounting: Spicules of Porifera, Obelia colony, Daphnia, Trachea and salivary gland of Coackroach
2. Museum Specimens (Non-Chordates): *Sycon*, *Euspongia*, *Aurelia*, *Gogonia*, *Metridium*, *Tubipora*, *Pennatula*, *Tapeworm*, *Fasciola*, *Ascaris*, *Pheretima*, *Hirudinaria*, *Neris*, *Pila*, *Unio*, *Sepia*, *Octopus*, Hermit Crab, Prawn, *Asterias*, Sea urchin, Brittle star
3. Museum Specimens (Chordates): *Scoliodon*, *Torpeda*, *Labeo rohita*, *Cirrhinus mrigala*, *Hippocampus*, *Exocetus*, *Clarias batrachus*, *Anabas*, *Necturus*, *Ambystoma*, *Axolotle larva*, *Alytes*, *Hyla*, *Bufo* (Toad), *Rana tigerina*, *Tortoise*, *Calotes*, *Draco*, *Chemeleon*, *Naja naja*, *Bungerus*, *Crocodylus*, *Python*, *Columba livia*, *Psittacula* (Parrot), *Bubo* (Owl), *Alcedo* (Kingfisher), Ostrich model. Duck-bill Platypus, Spiny Anteater, *Pteropus*, *Manis* (Pangolin), *Funnambulus*, *Hystrix*, *Rattus*

Cell biology

1. Study of the permanent slides of Mitosis Cell division
2. Study on slides of Prokaryotic and Eukaryotic cells: Bacteria, Ameoba, Paramecium, Euglina

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Semester III
Paper: Minor

Minor-2 (Practical) (MN-2P) Genetics, Ecology and Evolution

Credit-2

Practical Lecture-30 Hours

Full Marks= 25

| Sl. No | Practical | Marks Distribution |
|--------|--|--------------------|
| 1 | Pedigree Analysis | 05 |
| 2 | Ecological Experiment | 05 |
| 3 | Homologous/Analogous organ/Fossil/Extinct Models | 05 |
| 4 | Class record | 05 |
| 5 | Viva voce | 05 |
| | Total | 25 |

Suggested Practical

Genetics

1. Study of Sex-linked characters: Hemophilia and Colour blindness through Pedigree Analysis

Ecology

1. Determination of pH in soil and water sample
2. Estimation of free carbon dioxide
3. Food chain/food web/ecological pyramids through models

Evolution

1. Study of homologous and analogous organs
2. Study of fossils/extinct models: Dinosaurs, Archeopteryx

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Semester V
Paper: Minor

Minor-3 (Practical) (MN-3P) Biochemistry, Physiology and Development Biology

Credit-2

Practical Lecture-30 Hours

Full Marks= 25

| Sl. No | Practical | Marks Distribution |
|--------|--|--------------------|
| 1 | Biochemistry Experiment | 05 |
| 2 | Physiology Experiment | 05 |
| 3 | Permanent slides of Chick Embryo/Histology | 08 |
| 4 | Class record | 03 |
| 5 | Viva voce | 04 |
| | Total | 25 |

Suggested Practical

Biochemistry

1. Biochemical Test for Protein, Carbohydrate (starch & glucose) and Lipid
2. Study of Haemin crystal

Physiology

1. Record of the blood pressure in normal and after exercise
2. Study of permanent slides: Kidney, liver, stomach & Blood cell types

Developmental Biology

1. Study of the permanent slides of various stages of chick embryo (WM): 18 hrs, 24 hrs, 36 hrs, 48 hrs, 72 hrs
2. Types of Placenta

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Semester VII
Paper: Minor

Minor-4 (Practical) (MN-4P) Animal Behaviour, Economic Zoology and Wildlife Conservation

Credit-2

Practical Lecture-30 Hours

Full Marks= 25

| Sl. No | Practical | Marks Distribution |
|--------|--|--------------------|
| 1 | Experiment on Geotaxis/Phototaxis | 04 |
| 2 | Identify and Comment on Tasar Cocoon and Lack stick | 04 |
| 3 | Identification of wild fauna on the basis of pug marks/pellet/nest | 04 |
| 4 | Spotting (2X3) | 06 |
| | a Comment on Bee Hive/Termite Mound Specimen Showing Behavior | |
| | b Comment on the photographs of endangered species | |
| | c Common paddy and sugar cane pest | |
| 5 | Class record | 03 |
| 6 | Viva voce | 04 |
| | Total | 25 |

Suggested Practical

Animal Behaviour

1. Study Of Geo-Taxis, Photo-Taxis, Hygro-Taxis In Animals
2. Study of Bee Hive and Mound of Termites.

Economic Zoology

1. Common paddy and sugar cane pest
2. Cocoon of silkworm / Lack infestation on stick

Wildlife Conservation

1. Familiarization and study of animal evidences in the field, identification of animals through pug marks, hoof marks, pellet groups, nest, antlers etc.
2. Study of endangered species through photographs.