

DISSECTIONS:

- 1 Annelida : General anatomy, alimentary canal and reproductive system of *Pheretima* and *Hirudinaria*.
- 2 Mollusca : General anatomy and nervous system of : *Mytilus*, *Aplysia*, *Sepia* and *Loligo*.
- 3 Arthropoda : Nervous system of *Squilla*, *Vespa* and *Apis*. General anatomy, alimentary canal nervous system and reproductive system of *Schistocerca*.
- 4 Echinodermata : *Holothuria* : Flag labelling of various organs. *Echinus* : Aristotle's lantern.

DEVELOPMENTAL BIOLOGY :

- 1 Study of permanent slides :
 - (a) T.S. of mammalian ovary and testis
 - (b) Chick embryo, w.m. and T.S. of 18 hours, 24 hours, 36 hours, 48 hours and 72 hours.
 - (c) W.M. of mammalian sperm
 - (d) Cleavage, blastula and gastrula of frog.
- 2 Extraction and observation of cauda epididymal sperms of mammals.
- 3 Preparation of permanent mount of chick embryo of different hours stages.
- 4 Study of metamorphosis in invertebrates and vertebrates.
- 5 Effect of hormones on metamorphosis.
- 6 Study of regeneration.
- 7 Effect of vitamins on regeneration.

M.Sc. (Previous) ZOOLOGY - 2005-06

PRACTICAL-II

Duration : 5 hours per day for two days M.M. 100

<u>S.No.</u>	<u>Exercise</u>	<u>Regular</u>
1	Major Exercise	20
2	Minor Exercise	10
3	Cytogenetics Exercise	15
4	Physiological chemistry/Statistical Exercise	15
5	Spotting (1-10)	20
6	Viva-voce	10
7	Record	10
	Total :-	100
1	Localization of Golgi body using direct silver method.	
2	Localization of Mitochondria using Altman method.	
3	Localization of DNA and RNA using methyl green pyronin method.	
4	Localization of histones using ammoniacal silver method.	
5	Preparation of mitotic chromosomes (onion root	

- 6 Preparation of meiotic chromosomes (*Periplaneta* /*Schistocerca* testis).
- 7 Metaphase chromosomes preparation (mitotic) from bone marrow of mice/rat (mammal).
- 8 Meiotic chromosome preparation from testes of rat/mice.
- 9 Banding : C-bands, G-bands of mammalian chromosomes.
- 10 Preparation of karyotype from the photograph provided.
- 11 Salivary gland chromosomes of *Drosophila* or *Chironomous*, larva.
- 12 Sex chromatin in buccal smear.
- 13 Permanent slides of different stages of mitosis and meiosis, mitochondria, Golgi apparatus, centriole and other cell organelles.
- 14 Assessment of taxonomic diversity/ biodiversity in different habitats e.g. grassland, wetland, aquatic, arid etc.
- 15 To study the phenomenon of succession in laboratory condition. Qualitative & quantitative assessment of species.
- 16 Demonstration of density dependent selection in plant or animal populations.
- 17 To study different biotic interactions in laboratory conditions: Predation, competition etc.
- 18 Quantitative estimation of different types of pollutants (any three).
- 19 Adaptation in different habitats:
 - (a) Aquatic (freshwater and marine) : Lotic and lentic
 - (b) Aerial
 - (c) Terrestrial (desert, forest, grassland etc.)
- 20 Study of different animals showing adaptive features in relation to various habitats.
- 21 Statistical Analysis:
 - (a) Standard deviation
 - (b) Sampling
 - (c) T-test
 - (d) Chi-square test
 - (e) Correlation coefficient
 - (f) Diversity index.
- 22 Comparative study of R.B.C. & W.B.C. in different groups of vertebrates.
- 23 Estimation of mitotic index.
- 24 Colorimetric/spectrophotometric estimations of glucose, protein and RNA.