

12  
**ZOOLOGY (GENERAL)**  
**Paper I**

**Time - 3 hours**

**Full Marks - 75**

Ten questions to be set. Students will be required to answer any five questions, at least two from each group.

**Group A**

**Non-Chordata**

**Bionomics** : General characters and classification (upto orders) of the following phyla :

Porifera, Coelenterata, Platyhelminthes, Aschelminthes, Annelida, Mollusca, Echinodermata and Hemichordata

Detailed study of the structure and life history of the following types :

- |                    |   |   |
|--------------------|---|---|
| 1. Protozoa        | - | <i>Paramecium</i>   |
| 2. Porifera        | - | <i>Sycon</i>  |
| 3. Cnidaria        | - | <i>Obelia</i>   |
| 4. Platyhelminthes | - | <i>Fasciola</i>   |
| 5. Aschelminthes   | - | <i>Ascaris lumbricoides</i>                                 |
| 6. Annelida        | - | <i>Pheretima posthuma</i>                                   |
| 7. Arthropoda      | - | <i>Palaemon</i>   |
| 8. Mollusca        | - | <i>Pila</i>   |
| 9. Echinodermata   | - | <i>Asterias</i>   |
| 10. Hemichordata   | - | Salient features of <i>Balanoglossus</i> and its affinities |

**Group B**

**Cell-Biology, Genetics and Evolution**

1. Gametogenesis, Fertilization & Parthenogenesis
2. Cell-Biology and Genetics : Ultra-structure and functions of the following cell organelles :-  
Plasma membrane, Endoplasmic reticulum, Mitochondria, Golgi bodies, Ribosomes, Chromosomes, Lysosome
3. Structure and functions of DNA
4. Gene Mutation
5. Linkage and crossing-over

## Evolution

1. Lamarckism and Neo-Lamarckism
2. Darwin's theory of Natural Selection and Neo-Darwinism
3. Isolating mechanism and its role in evolution.

## ZOOLOGY (GENERAL)

## Practical

Time - 3 hours

Full Marks - 25

1. Dissection

1×7=7 marks

*Pheretima* - Reproductive system, Nervous system and Alimentary canal

*Palaemon* - Alimentary canal, Nervous system.

*Pila* - Alimentary canal and Nervous system

2. Permanent stained preparation of the following: 1×4=4 marks

Septal nephridia, Ovary, Setae of *Pheretima*, Statocyst of Prawn, Radula and Osphradium of *Pila*.

3. Spotting

1×6=6 marks

A. Museum Specimens 2

B. Slides 3

C. Evolution 1

4. Cytology

4 marks

Squash preparation to show the stages of Mitosis (onion root tips) and Meiosis (Grashopper testes)

or

Giant Chromosomes of *Chironomus* larvae.

5. Practical Records

4 marks