

M.Sc. FINAL (ZOOLOGY) 2003-2004 and onward

PAPER - FOURTH

INSECT PHYSIOLOGY

(Questions will be set from each Unit)

- UNIT - I**
1. Integument - Structure, function and modifications of insect integument. Moulting and sclerotization.
 2. Structure and modifications of alimentary canal in different types of insects.
 3. Food, feeding and digestion in insects.
 4. Structure and physiology of respiratory organs in terrestrial, aquatic and parasitic insects.
 5. Structure and function of haemolymph. Circulatory organs and mode of circulation in insects.
 6. Physiology of Excretion. Salt and water regulation in insects.
- UNIT - II**
1. Neuro-endocrine secretion in insects and its function.
 2. General Plan of Nervous System in insects.
 3. Structure and functions of various Visual organs in insects. Physiology of Vision.
 4. Sound producing organs and mechanism of sound production. Types of songs and their significance.
 5. Physiology of various types of mechano-receptors and chemoreceptors.
 6. Structure of various types of muscles in insects and its physiology.
- UNIT - III**
1. Bioluminescence - Light producing organs, mechanism and its significance.
 2. Pheromones - types, chemical nature and function.
 3. Nervous integration - learning and memory.
 4. Diapause in insects.
 5. Mimicry in insects.
 6. Insect Behaviour - Social life, Symbiosis and Adaptations.
- UNIT - IV**
1. Male and female reproductive organs in insects and their modifications.
 2. Physiology of reproduction. Mating, transfer of sperm, Vitellogenesis sperm storage.
 3. Polyembryony and Parthenogenesis.
 4. Fertilization and development upto formation of germinal layers.
 5. Various types of larva and pupa, their significance.
 6. Metamorphosis in insects - types, theories and importance.