

**3238**

**THIRD YEAR TDC SCIENCE  
ZOOLOGY  
PAPER-III  
ETHOLOGY AND EVOLUTION**

**Duration : 3 hours**

**M.M. : 50**

**UNIT-I**

- 1 Introduction and history of Ethology.
- 2 Methods of studying behaviour.
- 3 Neuroanatomical, neurophysiological, neurochemical, focal and scan sampling techniques.
- 4 Evolutionary approach to behaviour, levels of natural selection.
- 5 Human Ethology, general aspects.
- 6 Orientation taxes and kinesis.
- 7 Brief idea of learning.

**UNIT-II**

- 8 Social organization with reference to dominance, hierarchy, social competition and territoriality.
- 9 Reproductive behaviour with reference to courtship, mating, parental investment and stickle back fish (sexual dimorphism).
- 10 Elementary idea of role of pheromones and hormones in insects and vertebrates in relation to behaviour.
- 11 Adaptation and behaviour of Tiger.

**UNIT-III**

- 12 Origin of life
- 13 History of evolutionary thought Lamarckism and Neo-Lamarckism
- 14 Darwinism and Neo-Darwinism
- 15 Evidences of organic evolution.
- 16 Concept of micro and mega -evolution

**UNIT-IV**

- 17 Variation: Kinds and sources, role in evolution.
- 18 Isolation and speciation, definition, isolating mechanism, origin of species and processes of speciation.
- 19 Adaptation: Definition, kinds of adaptations, adaptive radiation, convergence and divergence.
- 20 Geological time scale

**UNIT-V**

- 21 Brief account of Zoogeographical regions of world
- 22 Fossils and their evolutionary significance.
- 23 Phylogeny of horse.
- 24 Evolution of man.