

# ZOOLOGY (HONS.) PART- 3

**PAPER V**

**full marks: 100**

**Time: 3 hours**

In all 08 questions are to be set, four from each groups. Five questions are to be answered, selecting at least two from each group.

## **Group –A: Biochemistry**

1. Carbohydrate; structure and classification
2. Amino Acid: Structure and Classification
3. Protein: Structure and classification  
Lipid: Structure and Classification
5. Nomenclature and classification of enzyme, mechanism of enzyme action
6. Vitamins
7. Selected metabolic pathways: - Glycolysis, Krebs cycle and  $\beta$  oxidation of fats

## **Group B: Physiology and Endocrinology**

1. Nutrition: Digestion and absorption.
2. Respiration : Transport of gases'
3. Circulation : Blood composition and Blood clotting mechanism'
4. Excretion :Urea Cycle, Removal of nitrogenous waste and Osmoregulation'
5. Physiology of muscle contraction and Nerve conduction.
6. General characters of hormones and hormone action.
7. Structure and function of pituitary, Thyroid, Adrenal and Islet of langerhans

# Paper-vi

Time: 3 hours

Full Marks: 100

In all 08 questions are to be set, four from each group. Five questions are to be answered, selecting at least two from each groups.

## **Group –A: Biotechnology and immunology**

1. Concept and scope of biotechnology.
2. Biotechnology and Human Welfare.
3. Basic concept of Genetic Engineering.
4. Restriction enzyme.
5. Cloning vehicles: Plasmids, Cosmids and Shuttle vector.
6. DNA Finger printing.
7. Components of Immune system.
8. Antigen-Antibody Interaction.
9. Immune Response.
10. Allergy and Inflammation.
11. Vaccine.

## **Group – B: Evolution and Zoogeography**

1. Theories of Evolution: Lamarckism, Darwinism and Neo-Darwinism
2. Concept of species and Speciation.
3. Genetic drift and Hardey –Weinberg Law.
4. Evolution of Horse and Man'
5. Zoogeographical realms: Ethiopian, Australian and Oriental region with their faunal distribution.
6. Living Fossils.
7. Extinction.
8. Insular Fauna.
9. Neoteny & Evolution.
10. Orthogenesis.

# Paper vii

Time: 3 hours

Full marks 100

In all 8 questions are to be set, four from each group. Five questions are to be answered, selecting at least two from each group.

## **Group A: Medical Zoology**

1. Pathogenic Microbes :Viruses and Bacteria
2. Pathogenic Protozoa :Plasmodium and Leishmania
3. Pathogenic Helminthes ;Wuchereria bancrofti, Ancylostoma duodenale
4. Small Pox : Etiology, Occurrence and Eradication
5. AIDS, Hepatitis B, Polio, Cancer : Etiology, Prophylaxis and therapy
6. Family planning: Contraceptive measures.

## **Group B: Economic zoology**

1. Sericulture: Rearing and Cocoon production, Diseases and their control.
2. Apiculture: Practices in Bihar
3. Lac- Culture: Practices in Bihar
4. Pisciculture: Pond Management, Induced breeding & Composite culture of Carp
5. Pest management: Paddy, Wheat and rice
6. Poultry: Major Fowl breeds, system of rearing, common diseases and their control
7. Biology of vectors and their control measure

# Zoology (Hons.) Paper viii: Practical

Full marks 100

1. Biochemistry-
  - a. Millons test for protein
  - b. Iodine test for starch
  - c. Estimation of glucose by glucometer
2. Hematology-

Estimation of RBC & Hemoglobin /Differential count of WBC in different groups of vertebrates

Determination of blood groups and E.S.R

Detection of glucose in urine.
3. Economic Zoology : Identification and description of two fishes provided/silk moth, Musca, Culex & Anopheles
4. Endocrinology: Study of Endocrine glands through graphics and comment upon endocrinological slides provided.
5. Presentation with the help of Charts/ models
6. Class Records
7. Viva-voce.