

**BACHELOR OF SCIENCE in ZOOLOGY (HONS)**  
**SEMESTER – VI**

**Paper Code: ZOO-610P**

ZOO-610P: Practical on Animal physiology, Endocrinology, Immunology, Developmental biology, Histology and Biological chemistry 100 marks

**ANIMAL PHYSIOLOGY**

**30 Marks**

Effects of isotonic, Hypotonic and Hypertonic solutions on erythrocytes. Counting of RBC and WBC using Haemocytometer. Estimation of haemoglobin percentage of a blood sample, amphibian or mammal. Preparation of haemin crystals. Coagulation of blood; Recording of frog's heart beat; Demonstration of the effect of acetylcholine, atropine and epinephrine on the heartbeat.

**ENDOCRINOLOGY:**

**10 Marks**

Dissection of endocrine gland in rat; Study of permanent slides; Sections of pituitary, Thyroid, Adrenal, Pancreas, Testis and Ovary.

**IMMUNOLOGY:**

**10 Marks**

Determination of ABO and Rh factor of blood DEVELOPMENTAL BIOLOGY 6 Marks Study of developmental stages of frog (permanent slides, WM): cleavage, gastrula and neurula. Study of developmental stages of chick (permanent slides, WM): 18,24,36,48 and 72 hours of incubation. Study of permanent slides of sections of blastula and gastrula of chick and neurula and external gills of frog.

**HISTOLOGY**

**16 Marks**

Microtomy- fixation, embedding, block making, sectioning, staining and mounting of tissues. Study of permanent slides-sections of oesophagus, stomach, duodenum, ileum, pancreas, lung, kidney and skin of mammal and amphibian.

**BIOLOGICAL CHEMISTRY**

**10 Marks**

General test for identification of carbohydrate, lipid and protein. Separation of amino acid using paper chromatography. Colorimetric estimation of protein from a calibration curve (provided). Lipid: Oxidation of fatty acids, fate of glycerol, Ketone body formation and utilization. Interaction of carbohydrates and lipids. Proteins: Metabolism of amino acids. Oxidative deamination, transaminations, decarboxylation, enzymology of urea cycle. Fate of glucogenic and ketogenic amino acids. Interrelationship of metabolic pathways.

**Practical record**

**8 marks**

**Slide submission**

**5 marks**

**Viva-Voce**

**10 marks**

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