

## **Practicals Post Graduates:**

**(a) Amphibian practicals** ▪ Selection of laboratory animals, care of animals in laboratory, introduction to animal experiments with special reference to function of CPCSEA, Act for prevention of cruelty on animals, Animal disposal etc. ▪ Biomedical instrumentation ▪ Amplifiers ▪ Transducers ▪ Electrodes ▪ Introducing use of various instruments in the laboratory circuits. ▪ Muscle-Nerve preparation. pithing, dissection, smoking, varnishing, fixing and preservation of graph ▪ Simple muscle twitch. ▪ Effects of Temperature ▪ Effect of free and after load. ▪ Effect of strength of stimuli ▪ Effect of multiple stimuli: Two successive stimuli, ▪ Fatigue and Ergography, ▪ Staircase & Incomplete and complete Tetanus, ▪ Study of conduction velocity in nerve ▪ Study of perfusion of frog heart ▪ Study Normal cardiogram and heart-block(stannius ligatures). ▪ Study of properties of cardiac muscles ▪ Study of effect of sympathomimetic, parasympathomimetic, Parasympatholytic and ganglion blocking drugs on cardiac muscle ▪ Effect of stimulation of vagus and crescent on cardiac contraction. And study of vagal escape

**(b) Haematology** ▪ Study of Microscope ▪ Study of Micrometry and Price Jones Curve ▪ Study of Peripheral Smear ▪ Study of Bone Marrow Smear ▪ Study of Platelet count ▪ Study of Reticulocyte count ▪ Study of Arneht and Absolute Count ▪ Total W.B.C. Count. ▪ Differential W.B.C. Count. ▪ Total R.B.C. Count. ▪ Hb estimation. ▪ P.C.V. & Blood indices. ▪ E.S.R. ▪ Study of Specific Gravity and Viscosity of blood ▪ Study of Isotonic, Hypotonic and Hypertonic solution on RBCs ▪ Study of effect of Osmotic fragility on RBCs ▪ Bleeding Time and Clotting Time ▪ Prothrombin Time, Clot Retraction Time, Capillary Fragility Test. ▪ Haemin crystals. ▪ Identification of Blood Group, Cross matching and blood banking

**(c) Applied and Clinical Physiology** ▪ History taking and principles of clinical examination, general examination. ▪ Examination of cardiovascular system. ▪ Measuring Blood Pressure and study of effect of posture, exercise and stress. ▪ Examination of pulse. ▪ Cardiac efficiency tests. ▪ Examination of Respiratory system. ▪ Spirometry. ▪ Resuscitation: Artificial Respiration, cardiac massage. ▪ Respiratory efficiency tests. ▪ Examination of Reflexes- Superficial and Deep. ▪ Examination of Motor Systems ▪ Examination of Sensory System ▪ Examination of Cranial nerves. ▪ Examination of Gastro-intestinal System ▪ Examination of higher functions. ▪ Visual Acuity, Optometry, ▪ Field of vision ▪ Colour vision ▪ Auditory tests. ▪ Audio-metry ▪ Recording of body temperature ▪ Reflex time and Reaction time. ▪ Stetho-graphy. ▪ Phono-cardiography and Plethysmography. ▪ Sphygmography. ▪ E.C.G. ▪ Pregnancy tests. ▪ Ophthalmoscopy ▪ Ergography. ▪ Study of EEG ▪ Study of EMG ▪ Study of Evoked potentials like Brainstem Auditory Evoked Potential ▪ Visual evoked potential ▪ Somesthetic Sensory Evoked potential, Motor Evoked Potential ▪ Study of Nerve Conduction Velocity ▪ Pulmonary Function Tests, ▪ Autonomic function tests, H.R.V. ▪ Study of Bicycle ergometry ▪ Study of Treadmill test ▪ Study of BMR ▪ Vestibular function tests ▪ G.T.T. ▪ Gastric function tests

**(d) Mammalian Experiments.** ▪ Recording of movements of isolated rabbit/guinea pig intestine and effect of drugs and ions. ▪ Recording of blood pressure and respiration in dog and effect of variables on it. ▪ Perfusion of isolated mammalian heart by Langendorff's preparation and effect of drugs and ions.

**(e) Biochemistry Experiments:** ▪ Introduction to practical biochemistry ▪ Tests for carbohydrates ▪ Tests for proteins and amino acids ▪ Tests for lipids ▪ Physiology of urine ▪ Pathological urine ▪ Estimation of acid output by stomach ▪ colorimetry ▪ Estimation of

serum urea ▪ Estimation of serum creatinine ▪ Estimation of serum cholesterol ▪ Estimation of serum bilirubin ▪ Estimation of serum total protein ▪ Estimation of serum albumin ▪ Estimation of plasma glucose, G.T.T.