

ADVANCED TEACHING PLAN FOR ACADEMIC YEAR 2020-21

Paper – I (Dr.S.S.Thorat)

Term – I

Topic	No. of Lecture required	Teaching Learning Method
Cell The structure of cell and it's differentiation	2	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials Debate Multimedia presentation
Tissue and organs of the body		
Blood Composition and functions of blood	14	
Plasma proteins and its functions		
ESR and its Significance		
Co-agulation of blood		
Importance of homeostasis		
Blood volume and it's regulation		
Bone marrow, functions of bone-marrow		
Formed elements of blood, RBC – erythropoiesis, factor affecting erythro poiesis		
Haemoglobin – synthesis, types and functions		
Anaemia – cause types and clinical importance		
White blood corpuscles		
Thrombocytes, functions of platelets		

Topic	No. of Lecture required	Teaching Learning Method
Blood groups – different types		
Rh-blood group		
Hazards of mismatched blood transfusion		
Erythroblast foetalis		
Body fluids		
Cardio vascular system	13	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials Debate Multimedia presentation
Anatomical consideration of heart, valves of heart Histology of cardio-vascular system		
Special junctional tissue of heart		
Heart block		
Basic Properties of cardiac muscle and it's structure		
Cardiac cycle		
Cardiac cycle		
Heart sounds		
ECG – Introduction		
ECG – leads, waves,		
Nerves of heart and their action		
Heart-rate & it's regulation		
Cardiac output and it's regulation		
Measurement and recording of blood pressure		
Regulation of blood pressure		
Radial pulse		

Topic	No. of Lecture required	Teaching Learning Method
Coronary circulation		
Cerebral circulation		
Pulmonary circulation and hepatic circulation		

Term – II

Topic	No. of Lecture required	Teaching Learning Method
Respiratory system	14	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials Debate Multimedia presentation
Introduction of respiratory system		
Mechanism of breathing		
Motion of Ribs		
Spirometry		
Lung volumes & capacities		
Respiratory dead space		
O ₂ - transport		
O ₂ – dissociation curve		
Carbon dioxide transport		
Control of respiration		
Nervous control & Chemical control		
Hypoxia		
Dyspnoea		
Dysbarism		
Asphyxia		
Cyanosis		
Methods of artificial respiration.		
Excretion		

Topic	No. of Lecture required	Teaching Learning Method
Kidneys	13	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials Debate Multimedia presentation
Juxtaglomerular apparatus		
Renal blood flow		
Function of kidney and glomerulus		
Selective reabsorption		
Tubular secretion		
Formation of new substances		
Renal functional test		
Volume and characteristic of urine		
Composition of urine		
Glycosuria		
Micturation		
Mechanism of micturation		
Mechanism of micturation		
Vitamins & kidney		
Reaction of urine		
Factors controlling volume of urine		
Abnormal volume of urine		
Body temperature and skin. Factors affecting body temperature		
Regulation of body temperature thermogenesis		
Thermolysis		
Nervous system and thermotaxis		
Pyrexia (Fever)		
Structure of skin and its function		
Spleen & lymph	10	Chalk – Talk method (black board / Lecture)
Structure of spleen		

Topic	No. of Lecture required	Teaching Learning Method
Functions of spleen		Group Discussion
Clinical aspect related to spleen		Seminar
Lymphatic capillaries		Tutorials
Composition of lymph		Debate
Formation of lymph		Multimedia presentation
Lymph node / lymph gland		
Lymph gland – structure		
Functions of lymph nodes		
Clinical aspect or physiological importance of lymph		
Biophysics – Bio – principles		
Units of concentrations of solutions.		
Ions, electrolyte and non electrolyte, filtration		
Diffusion		
Osmosis		
Ultra filtration		
Dialysis		
Surface tension, Adsorption		
Hydro trophy		
Donnan equilibrium		
Colloid		

Paper II (Dr.M.H.Parewal)

Term I

ENDOCRINE SYSTEM		
Introduction Hormones Negative & positive feed Back mechanism		
Anterior & posterior pituitary Anatomy / Histology		Chalk – Talk method
Anterior Pituitary hormones		(black board / Lecture)
Growth Hormone		Group Discussion
Applied physiology		Seminar
Posteriorpituitary Hormones Actions – ADH / Oxytocin	20	Tutorials
Applied physiology Diabetes. Insipedus.		Debate
Thyroid Gland Anatomical physiology		Multimedia presentation
Synthesis of Hormones		
Functions of hormones		
Applied physiology Hyper Thyroidism		
Hypo-thyroidism		
Parathyroid Hormone		
Calcium Metabolism & Regulation of serum		

Topic	No. of Lecture required	Method
Lipids Classification	20	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials Debate Multimedia presentation
Essential fatty acids steroids		
Digestion & absorbtion		
Metabolism B-oxidation of fatty acids Bio synthesis of lipids		
Regulation of lipid Metabolism.		
Protein – Classification		
Essential amino acids		
Nitrogen balance, Edema		
Digestion & absorbtion The Process of protein synthesis		
Vitamins		
Fat soluble Vit. D Vit. E Vit. K		
Water soluble Thiamine vit B1 Ribotlavin vit B2 Niacin vit B3 Pyridoxin vit B6 Pantothenic acid vit B5		
Vit. B12		
Rickets Scurvy Beriberi		
Osleomalacia		

Topic	No. of Lecture required	Method
Pernicious anemia		
Enzymes and co-enzymes		
Introduction, Definition		
Classification – Properties		
Co-enzymes Co-enzymes A		
	8	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials Debate Multimedia presentation
	11	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials

Topic	No. of Lecture required	Method
		Debate
		Multimedia presentation

Paper II

Term II

Topic	No. of Lecture required	Method
Nitrogen balance, Edema	10	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials Debate Multimedia presentation
Digestion & absorbtion The Process of protein synthesis		
Vitamins		
Fat soluble Vit. D Vit. E Vit. K		
Water soluble Thiamine vit B1 Ribotlavin vit B2 Niacin vit B3 Pyridoxin vit B6 Pantothenic acid vit B5		
Vit. B12		
Rickets Scurvy Beriberi		
Osleomalacia Pernicious anemia		
Enzymes and co-enzymes Introduction, Definition		
Classification – Properties		
Co-enzymes		

Topic	No. of Lecture required	Method
Co-enzymes A		

Summary of protein / fat / CHO. Metabolism.		
Summary of vitamins		
Tutorial on Metabolism		
Seminar on Vitamins		
DIGESTIVE SYSTEM		
Anatomical consideration of the digestive system		
Functions of digestive system		
Salivary glands		
Mastication, Deglutition		
Digestion		
Stomach Functions of stomach		
Composition & Functions of gastric juice		
Movements of stomach digestion		
Small intestine Pancreas – Mechanism of pancreatic Secretions	18	Chalk – Talk method (black board / Lecture) Group Discussion Seminar Tutorials Debate Multimedia presentation
Composition & functions of pancreatic juice - digestion		
Characters & composition of succus entricus		
Mechanism of secretion of succus entricus Digestion		
Bile Composition of bile function of bile, bile salts / bile pigments		
Mechanism of storage of bile. Movements of gall bladder. Functions of gall bladder		
Movements of alimentary canal		

Movements of small intestine		
Movements of large intestine		
Hormones of Gastric secretion		
Tutorial on GIT		
Seminar on GIT		
Digestion & absorption of CHO, Proteins, Lipids		
Nutrition		Chalk – Talk method
Food Vs Nutrition		(black board / Lecture)
Constituents of a Normal diet		Group Discussion
Nutritional needs of the body in terms of calories	5	Seminar
Balanced diet		Tutorials
Principles of diet planning		Debate
Applied aspect obesity, Kwashiorkar, Marasmus		Multimedia presentation
CNS		Chalk – Talk method
Neurons		(black board / Lecture)
Properties of nerve fibres		Group Discussion
Synapse	05	Seminar
Reflex		Tutorials
Receptors		Debate
		Multimedia presentation
Topic	No. of Lecture required	Method
Brain Stem	20	Chalk – Talk method
Medulla oblongata		(black board /

Pons		Lecture)
Midbrain		Group Discussion
Cerebrum		Seminar
Thalamus		Tutorials
Hypothalamus		Debate
Cerebral cortex		Multimedia presentation
Basal ganglia		
Limbic System		
Ascending tract		
Descending tract		
Upper & Lower Motor lesions		
Revision		
Tutorial – CNS		
Seminar – CNS		
NERVE MUSCLE PHYSIOLOGY		
Skeletal Muscle		
Mechanism of contraction		
Neuromuscular junction		
Characteristic Properties of skeletal muscles		
Characteristic Properties of skeletal muscles		
Nerve muscle physiology		
Tutorial – NMP		
Seminar – NMP		