Card 6: Physiology of Reproduction

Item No.	Physiology: Name of Item	Full Marks	Marks Obtained	Remarks & Sign
1	Introduction to reproductive physiology, sex determination & sex differentiation. Puberty. Functional anatomy of male reproductive system. Secondary sex characteristics of male. Gonad: functional structure and functions of testes. Testosterone: functions, Spermatogenesis: steps & hormonal control.	10		
2	Functional anatomy of female reproductive system. Secondary sex characteristics of female. Gonad: functional structure and functions of ovaries. Functional structure of uterus Menstrual cycle: definition, hormonal control. Ovarian and endometrial cycle with their hormonal regulation. Ovulation: definition, mechanism & hormonal control. Indicators of ovulation. (Definition of menstruation, menarche & menopause.) Ovarian hormones; Oestrogen and progesterone functions	10		
3	**Physiology of pregnancy & Lactation:** Pregnancy: physiological changes during pregnancy. Placental hormones: name & functions. Mammogenesis: hormonal influence for mammogenesis & lactation Physiology of contraception	10		

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Card 7: NeuroPhysiology & Special Senses

Item No.	Physiology: Name of Item	Full Marks	Marks Obtained	Remarks & Sign
1	Functional organization and functions of major levels of central nervous system (CNS). Neuron: definition, parts, types, Nerve fiber: classification, properties, effects of injury to the nerve fiber. Synapse: physiological anatomy, type, properties & synaptic transmission. Neurotransmitters: definition, types & functions	10		
2	Sensory systems of the body: Sensory receptor: definition, classification, properties, receptor/generator potential. Cerebral cortex: Name and functions of the Brodmann's areas. General/somatic senses: definition and classification. Ascendingtracts / sensory pathways – name.(Tract of Gall & Burdach, spinothelamic tract, spinocerebellar tract): origin, course, termination, functions, and effect of lesions.	10		
3	Reflex: définition, classification, properties. Reflex arc: définition, component stretch reflex, knee jerk, planter response and Withdrawal reflex- with reciprocal innervations & crossed extensor-pathway . Muscle spindle, Golgi tendon organ: definition, physiological anatomy and functions. Muscle tone: definition , function and maintenance.	10		
4	Descending tracts/ motor pathways- name. Pyramidal tract: origin, course, termination, function, effect of lesion. Extrapyramidal tract: name, functions. Upper motor neuron and lower motor neuron : definition, effect of lesion. Spinal cord: effect of hemisection.	10		
5	Cerebellum: functional division, neuronal circuit, functions, error control mechanism of motor activity & cerebellar disorder,	10		
6	Basal ganglia: functional components, functions & effects of lesions. Thalamus, Reticular formation, Limbic system: functional components and functions. CSF: circulation & functions. Blood brain barrier: function.	10		
7	Hypothalamus: name of the nucleus, functions. Body Temperature: Normal body temperature, site of measurement, sources of heat gain, channels of heat loss, regulation of body temperature in hot and cold environment.			
8	Autonomic Nervous system: physiological anatomy of sympathetic and parasympathetic system, functions. Alarm or stress response			
9	Vision: physiological anatomy of eye, image formation in the eyes, visual receptors, visual pathway, common refractive errors, accommodation reaction, light reflex, dark and light adaptation. Field of vision, color vision, visual acuity			
10	Hearing: auditory apparatus, receptor, Mechanism of hearing, mechanism of sound transmission and auditory pathway.			
11	Smell: receptor and pathway. Taste: receptors, modalities of taste sensation and pathway.			

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ISLAMI BANK MEDICAL COLLEGE, RAJSHAHI
DEPARTMENT OF PHYSIOLOGY
ACADEMIC PERFORMANCE RECORD. (MBBS)

Stamp size Photograph

Name .....Phone no.....

Father's name .....Phone no.....

Mother's name .....Phone no.....

Mailing address .....

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Roll No..... Batch.....Group.....

Session.....University Reg. No.....

Date of Admission.....Date of Birth .....

Blood Group.....

Previous Academic Records:

Examination	Year of Passing	GPA	Board
S.S.C			

FIRST TERM

Card 1: Cellular Physiology & Blood

Item No.	Physiology: Name of Item	Full Marks	Marks Obtained	Remarks & Sign
1	Definition, goal & importance of physiology. Homeostasis: definition, major functional systems, control systems of the body	10		
2	The cell: functions of cell membrane & cell organelles	10		
3	The cell membrane transport: active & passive transport, exocytosis & endocytosis. Intercellular communications	10		
4	Membrane potential: definition and basic physics of membrane potential. Resting membrane potential. Nerve Action potential & propagation of action potential.	10		
5	Neuromuscular junction, muscle contraction & transmission of impulse from nerve ending to the muscle fibre.	10		
6	Composition & functions Block, Plasma proteins: Origin, normal values, properties & functions.	10		
7	RBC: normal count, morphology, functions, erythropoiesis, fate of RBC. Hemoglobin: synthesis, types, functions. Red blood cell indices. Anaemia: definition & classification. Polycythemia: definition & type. Jaundice: definition & classification	10		
8	WBC: classification with normal count, morphology, development, properties & functions. leucocytosis, leucopenia .	10		
9	Platelets: normal count, morphology, functions & development. Hemostasis: definition & events. Coagulation: definition, blood clotting factors. Mechanism of coagulation & fibrinolysis. Anticoagulant: name, mode of action. Bleeding disorder: thrombocytopenic purpura & hemophilia. Tests for bleeding disorder: bleeding time, coagulation time and prothrombin time.			
10	Blood grouping: ABO & Rh system, hazards of blood transfusion & Rh incompatibility.			

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Card 2: Cardiovascular Physiology

Item No.	Physiology: Name of Item	Full Marks	Marks Obtained	Remarks & Sign
1	Properties of cardiac muscle, Junctional tissues. Generation & conduction of cardiac impulse.	10		
2	Cardiac cycle, events, pressure & volume changes, Heart sounds	10		
3	Heart rate: its regulation, pulse, E. C.G.	10		
4	Hemodynamics, cardiac output, venous return, physics of blood flow.	10		
5	Blood pressure: definition, types, measurement, regulation.	10		
6	Greater & lesser circulation, regional circulation, local blood flow & microcirculation	10		
7	Blood vessels: Physiologic classification, innervations, vasoconstrictor & vasodilator agents.	10		
8	Hypertension, heart block, compensatory reactions activated by hemorrhagic shock.			

SECEND TERM

Card 3: Respiratory Physiology

Item No.	Physiology: Name of Item	Full Marks	Marks Obtained	Remarks & Sign
1	Respiration: definition, mechanism. Pulmonary & Alveolar ventilation. Pulmonary volumes and capacities (spirometry) Dead space: physiological & anatomical. Lung function tests :name & significance	10		
2	Composition of atmospheric, alveolar, inspired and expired air. Respiratory unit and respiratory membrane. Diffusion of Gases through the respiratory membrane. Peculiarities of pulmonary circulation. Ventilation - perfusion ratio.	10		
3	Transport of Oxygen & Carbon dioxide in blood. Oxy-hemoglobin dissociation curve. Bohr effect, Haldane effect & Chloride shift.	10		
4	Respiratory centers: name, location & functions. Nervous & chemical regulation of respiration. Regulation of respiration during exercise.	10		
5	Hypoxia: definition, types. Cyanosis: definition & types. Definition of dyspnea, hypercapnea & periodic breathing.	10		

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Card 4 : Gastrointestinal Physiology & Renal Physiology

Item No.	Physiology: Name of Item	Full Marks	Marks Obtained	Remarks & Sign
1	Physiological anatomy of gastrointestinal (GI) tract. Enteric nervous system. Local hormones of GIT: name, functions & regulation of secretion. Neural and hormonal control of GI function.	10		
2	Movements of the GIT. GI reflexes.	10		
3	Kidney: functions of kidneys. Renal circulation: peculiarities with functional importance.	10		
4	Urine formation. Glomerular filtration, determinants of GFR, Autoregulation of renal blood flow and GFR.	10		
5	Reabsorption and secretion by the renal tubules Definition of Tm, Renal threshold, tubular load & plasma load and diuresis	10		
6	Mechanism of formation of concentrated & dilute urine.	10		
7	Micturition reflex. Abnormalities of micturition	10		

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THIRD TERM

Card 5 : Endocrine Physiology

Item No.	Physiology: Name of Item	Full Marks	Marks Obtained	Remarks & Sign
1	Endocrine glands: name Hormones: definition, classification, mechanism of action, regulation of secretion	10		
2	Hypothalamic hormones. Pituitary hormones (anterior & posterior): name, functions and their control by the hypothalamus and disorders (Dwarfism, gigantism, acromegaly & hypopituitarism and diabetes insipidus)	10		
3	Thyroid hormones: biosynthesis, transport, functions, regulation of secretion, disorders (Hypothyroidism hyperthyroidism, Cretinism, Myxoedema and goitre).	10		
4	Parathyroid hormone: functions, mechanism of action & regulation of secretion.	10		
5	Adrenocortical hormones: name, functions, mechanism of action, regulation of secretion & disorders (Addison's disease, Cushing's Syndrome, Conn's disease).	10		
6	Hormones of Islets of Langerhan's of pancreas: functions, mechanism of action, regulation of secretion & disorders	10		