

First BHMS Physiology & Biochemistry Question Papers

Calicut University

1996 to 2000

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, DECEMBER 1996

Paper I—PHYSIOLOGY AND BIOCHEMISTRY

Time : Three Hours Maximum : 100 Marks

Answer five long questions and five short questions.

Draw diagrams wherever necessary.

- 1 Describe blood groups and mention their significance.
- 2 Define cardiac output and describe how it is regulated.
- 3 Give an account of regulation of body temperature.
- 4 Describe the auditory pathway and add a note on tests for deafness.
- 5 Explain how CO₂ is transported in blood.
- 6 Describe the role of kidneys in the maintenance of acid-base balance.

7.Short notes

- 1 Fibrinogen.
- 2 Ventilation - perfusion ratio.
- 3 Baroreflexes.
- 4 Colour vision.
- 5 Dysbarism of decompression sickness.
- 6 Glomerular filtration.
- 7 Lymph glands.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, DECEMBER 1996

PHYSIOLOGY AND BIO-CHEMISTRY—Paper II

1. Give an account of digestion and absorption of fats.
2. Define Reflex action Classify reflexes and describe their general features.
3. Describe regulation of blood glucose level.
4. Describe the physiological actions of growth hormone. What are the clinical manifestations of insufficient and excessive secretion of growth hormone.
5. Name the hypothalamic nuclei and give an account of the functions of hypothalamus.
6. Describe in detail the physiological basis of various contraceptive methods.
7. Answer any five:
 - (a) Deglutition.
 - (b) Properties of enzymes.
 - (c) Cushing's syndrome. -
 - (d) Primary motor area.
 - (e) Neuro-muscular junction.

- (f) Polysaccharides.
- (g) Spermatogenesis

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, MARCH/APRIL 1997

Paper I—PHYSIOLOGY AND BIOCHEMISTRY

Answer any five:

1. Describe Erythropoiesis and factors influencing it.
2. Give an account of the structure and properties of Cardiac muscle.
3. Explain the mechanism of accommodation for near vision and describe the pathway of impulses for accommodation reflex.
4. Describe the mechanism of respiration.
5. Define hypoxia and explain the various types of hypoxia.
6. Describe the innervation of bladder and mechanism of micturition. Add a note on the effects of lesion of parasympathetics on micturition.

Answer any five:

1. Immunoglobulins.
2. Heart block.
3. O₂ dissociation curve.
4. Renin.
5. Erythroblastosis foetalis.
6. Arterial pulse.
7. Ossicles of middle ear.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, MARCH/APRIL 1997

Paper II—PHYSIOLOGY AND BIOCHEMISTRY

Answer any five

1. Name the gastro intestinal hormones. Describe their site of origin and physiological actions.
2. Describe the functions of cerebellum and mention the effects of lesions in its various divisions.
3. Give an account of the differences between lower motor neurone and upper motor neuron paralysis.
4. Describe in detail the structure and functions of testis.
5. Describe the physiological actions and regulation of secretion of the posterior pituitary hormones.
6. Describe the reactions in 'Kreb's cycle' with all the enzymes and co-enzymes involved.

Answer any five

1. Peristalsis.
2. Muscle spindles.
3. Semicircular canals.
4. Deficiency signs of vit. A
5. Addison's disease
6. Co-enzyme A.
7. Ketone bodies

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, DECEMBER 1997

Paper I—PHYSIOLOGY AND BIOCHEMISTRY

1. How is oxygen transported in blood ? Add a note on respiratory Alkalosis
2. Discuss in detail the mechanism of Urine-formation.
3. What is haemostasia ? Discuss various mechanism leading to stoppage of bleeding following injury.
4. What is normal heart rate ? Describe various factors influencing heart rate. Add a note on Cardiac arrhythmias.
5. Give an account of coronary circulation. What are its peculiarities?
6. Describe the mechanism of hearing.

7. Write short notes on any five of the following
 - (a) Dialysis.
 - (b) Functions of spleen.
 - (c) Hering-Breuer reflex.
 - (d) Vagal escape.
 - (e) Arneth count.
 - (f) Capillary pressure.
 - (g) Cellular immunity.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION DECEMBER 1997

PHYSIOLOGY AND BIOCHEMISTRY.Paper.2

(Answer FIVE long questions and FIVE short questions. Draw neat and labeled diagrams wherever necessary)

1. Describe the mechanism of salivary secretion and its regulation.
2. Compare and Contrast the structure, Electrical and Mechanical Properties of skeletal, Cardiac and Smooth Muscles.
3. Give the normal blood calcium level. Describe the role of Vit. D, parathormone and calcitonine in the regulation of blood calcium
4. Define Glycolysis. Describe the different steps, energetics and functions of an aerobic glycolysis.
5. Name the Thyroid, hormones • Describe their synthesis and Functions
6. Describe the structure, connections and Functions of Cerebellum.

7. Answer any Five
 - a) Regulation of Pancreatic Secretion.
 - b) Role of Substrate concentration in Enzyme reaction.
 - c) Glucagone
 - d) Accomodation Reflex
 - e) R.M.P.
 - f) G.T.T.
 - g) Essential Aminoacids.

FIRST B.H.M.S. DEGREE EXAMINATION, JUNE 1998
PHYSIOLOGY and BIOCHEMISTRY—Paper I

1. Describe the process of formation of a temporary blood clot.
2. Compare and contrast the structure, electrical and mechanical properties of skeletal, cardiac and smooth muscles.
3. Define Blood Pressure and describe the determinants of blood pressure. Explain the characteristics of renal blood flow and how it is autoregulated
4. Describe the neural regulation of respiration.
5. Explain the role of kidney in the regulation of acid-base balance.

Answer any five questions.

1. Resting membrane potential.
2. Erythrocyte sedimentation rate.
3. Platelets.
4. Sino aortic reflex
5. Timed vital capacity
6. Urea clearance.
7. Hypermetropia.

FIRST B.H.M.S. DEGREE EXAMINATION JUNE 1998
PHYSIOLOGY AND BIOCHEMISTRY—Paper II

I. Answer any five:

- (a) Describe the mechanism of salivary secretion and its regulation.
- (b) Name the ascending tracts. Describe the tract that conveys the fine aspects of touch sensation with a suitable diagram.
- (c) Describe the structure, connections and functions of Hypothalamus.
- (d) Classify the secretions of Adrenal gland. Describe the functions of Aldosterone and add a note on Conn's syndrome.
- (e) What is the normal blood calcium level? Describe its hormonal regulation.
- (f) Give the structure, source, functions and deficiency manifestations of Vitamin

II. Short notes

- (a) Regulation of Pancreatic Secretion.
- (b) Muscle Tonne.
- (c) Acromegaly.
- (d) Competative Enzyme inhibition.
- (e) BMR.
- (f) GTT.,
- (g) Ketosis.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, DECEMBER 1998
PHYSIOLOGY AND BIOCHEMISTRY—Paper I

I. Answer any five :

1. What is the normal concentration of plasma 'proteins? Give an account of the different types of plasma proteins, their synthesis and functions
2. Describe the physiology of muscle contraction.
3. Define Blood Pressure. What is the normal value ? Describe the factors maintaining it.
4. How is oxygen transported through blood ? Add a note on O.D.C.
5. Give an account of the lung volumes and capacities with the help of a Spiro gram.
6. Define GFR. Describe the factors that influence it.

II. Answer any. five;

1. Neutrophil.
2. J.V.P.
3. Tripple response.
4. Histotoxic Hypoxia.
5. Accommodation reflex.
6. Juxta glomerular apparatus.
7. Osmotic diuresis.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, JUNE 1999
PHYSIOLOGY AND BIOCHEMISTRY—Paper I

Answer any five:

1. Give the normal blood volume. What are all the methods used to estimate it, and describe one method of determining blood volume in man.
2. What is neuromuscular junction? Describe the physiology of neuromuscular transmission.
3. Define cardiac output. How the stroke volume is regulated?
4. Describe the chemical regulation of respiration.
5. Give the name of the functional unit of kidney. Describe how urine is concentrated in its.
6. Describe the refractory error's of the eye ball and explain how they are corrected.

7. Answer any five:

1. Saltatory conduction.
2. Pernicious anaemia.
3. S.A. node.
4. End diastolic volume.
5. Vital capacity.
6. Cyanosis.
7. Osmotic diuresis.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, JUNE 1999
PHYSIOLOGY AND BIOCHEMISTRY—Paper II

Answer any five:

1. Give the composition, functions and regulation of gastric secretion.
2. Give the origin, course and termination of pyramidal tract. What are the effects of lesion at the level of internal capsule?
3. Name the thyroid hormones and describe their synthesis and functions.
4. What is menstrual cycle? Describe the various changes taking place in the ovary and uterus during menstrual cycle with its hormonal basis.
5. Describe the digestion and absorption of lipids in the gastrointestinal tract.
6. Give the structure, source, functions and deficiency manifestations of Vitamin A.

Answer any five:

1. Gastrointestinal hormones.
2. Mass peristalsis.
3. Reflex arc.
4. Post synaptic inhibition.
5. ADH.
6. Cushing's syndrome.
7. Co-enzymes.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, DECEMBER 1999
PHYSIOLOGY AND BIOCHEMISTRY—Paper I

I Answer any five

1. Classify leukocytes and describe their functions
2. Define Action potential. Give the ionic basis of action potential produced in a neurone and how it is recorded.
3. Give an account of the Electrical, Mechanical and Pressure changes associated with cardiac cycle
4. Give the normal heart rate and how it is regulated
5. Draw an oxygen dissociation curve and describe the factors that influence it
6. Give the name of the functional unit of kidney and describe its structure in detail.

II Answer any five

1. Reticulocyte.
2. Erythroblastosis foetalis.
3. ECG.
4. Residual volume.
5. Ossicles of middle ear.

6. Hypoxic hypoxia.
7. Ultrafiltration.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, DECEMBER 1999
PHYSIOLOGY AND BIOCHEMISTRY—Paper II

Answer any five

1. Describe the movements of small intestine with its i egulation
2. Describe the structure, connections and functions of cerebellum. Add a note on its lesions.
2. Classify the secretions of adrenal gland. Describe the synthesis and functions cortisol.
4. Describe the physiology of lactation
5. Describe the digestion and absorption of dietary proteins
6. Give the structure, source functions and deficiency manifestations of Vitamin

Answer any five

1. Functions of gall bladder
2. Enterocolic reflex
3. Muscle spindle
4. Growth hormone
5. Dietary fibres
6. Poly unsaturated fatty acids.
7. Hyper glycaemia.

FIRST YEAR B.H.MS. DEGREE EXAMINATION, JUNE 2000
PHYSIOLOGY AND BIOCHEMISTRY—Paper I

Answer any five:

- 1.Name the clotting factor's. Describe the physiology of formation of a temporary blood clot.
- 2.What is cardiac output ? Describe the regulation of stroke volume.
- 3.Draw an O.D.C. Describe the factors influencing it.
- 4.Describe the formation, composition and functions of Lymph.
- 5.Give the total amount of sodium that is filtered per day in our kidney. Describe the fate of this filtered load of sodium in the different segments of renal tubule.
- 6.Draw the diagram of urinary bladder with its innervation. Describe the mechanism of micturition.

Answer any five:

1. Lymphocyte. 2. Functions of platelets.
3. A.V. node. 4. Tripple rhythm.
5. J.V.P, 6. Caisson's disease.
7. G.F.R.

FIRST YEAR B.H.M.S. DEGREE EXAMINATION, JUNE 2000
Paper II—PHYSIOLOGY AND BIOCHEMISTRY

1. Give the normal blood sugar-level and describe the Hormonal regulation of it.
2. Describe the pyramidal tract. What are the effects of a lesion at the level of internal capsule
3. Give the composition, functions and regulation of pancreatic secretion.
4. What are all the factor's that influence an enzyme reaction ? Describe the role of substrate concentration in enzyme reaction.
5. Give the structure, functions, daily requirement and deficiency manifestations of Vitamin D.
6. Describe the digestion and absorption of Lipids.

Answer any five short questions:

1. Cushing's syndrome. 2. Parkinson's disease
3. Functions of placenta 4. Phospho lipids
5. G.T.T6. 6. B.M.R.
7. Dietary Fibres

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