

**The West Bengal University of Health Sciences
MBBS 1st Professional Examination 2015****Subject : Anatomy
Paper : I****Full Marks: 50
Time : 2 ½ hours***Attempt all questions. The figures in the margin indicate full marks***Group-A**1. Answer **any one** of the followings :

- ✓ a) Describe the shutter mechanism of Inguinal Canal and anatomical difference between oblique and direct hernia. 6+6
- b) Describe the brachial plexus under the following heads: roots, trunks, divisions and cords. What do you mean by Erb's Point? Add a note on Klumpke's paralysis. 6+3+3

Group-B2. Answer **any two** of the following :

- ✓ a) A 10 year old child had a fall on his outstretched hand and was diagnosed to be suffering from supra condylar fracture of humerus. Describe the structures likely to be damaged. What are the immediate and delayed effect of said fracture? 3+4
- b) Discuss the Tibialis Posterior muscle. 7
- ✓ c) Describe the interior of anal canal with its histological structure. 4+3

Group-C3. Write short notes on **any four** of the following :

4 x 3

- ✓ a) Prostatic part of male urethra.
- ✓ b) Cardiac muscle.
- ✓ c) Blastocyst.
- ✓ d) Turner's syndrome.
- e) Laws of ossification.

Group-D4. Explain the followings (**any four**) :

4 x 3

- ✓ a) Tear of medial semilunar cartilage (meniscus) is more frequent than Lateral Semilunar cartilage (meniscus).
- ✓ b) Imperforate anus.
- ✓ c) Carcinoma of inferomedial quadrant of mammary gland may spread to ovary.
- ✓ d) Caput medusae.
- e) Inner layer of myometrium acts as a living ligature of uterus during menstruation and parturition.

**The West Bengal University of Health Sciences
MBBS 1st Professional Examination 2015****Subject : Anatomy
Paper : II****Full Marks: 50
Time : 2 ½ hours***Attempt all questions. The figures in the margin indicate full marks***Group -A**1. Answer **any one** of the followings :

- ✓ a) Give an account of origin, course and distribution of oculomotor nerve. Explain the effects of oculomotor nerve lesion. 2+4+4+2
- ✓ b) Define pleura. Enumerate the parts of the pleura with their nerve supply. Describe the costomediastinal reflection of pleura. What is pleural effusion? 2+4+4+2

Group-B2. Answer **any two** of the followings :

- ✓ a) Name the components forming the Nasal Septum with a suitable diagram. What is Little's area? 5+2
- b) Describe the coronary sinus of the heart with its tributaries and development. 5+2
- ✓ c) What are the different parts of the Cerebellum? Mention its blood supply. What is cerebellar ataxia? 4+2+1

Group-C3. Write notes on **any four** of the following :

4 x 3

- ✓ a) Central tendon of diaphragm.
- ✓ b) Meckel's cartilage.
- ✓ c) Transposition of great vessels.
- ✓ d) Speech area of the Brain.
- ✓ e) Structure and nerve supply of tympanic membrane.

Group - D4. Explain the following (**any four**) :

4 x 3

- ✓ a) Increased intra cranial pressure may cause medial squint.
- ✓ b) A child suffering from acute tonsillitis may complain of pain in the ears.
- c) In anterior spinal artery syndrome there is bilateral loss of pain and temperature sensation but conscious proprioceptive sensation are preserved.
- ✓ d) Danger area of the face.
- ✓ e) Posterior cricoarytenoid muscle acts as safety muscle of larynx.

**The West Bengal University of Health Sciences
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Subject : Physiology
Paper : I

Full Marks: 50
Time : 2 ½ hours

Attempt all questions. The figures in the margin indicate full marks

Group – A

1. a) What is erythropoiesis? Give a brief account of the steps and mention the factors regulating erythropoiesis. 1+6+5

or

- b) What do you understand by the terms "cardiac output" and "cardiac index"? Describe the factors that regulate cardiac output. What is ejection fraction? 3+6+3

Group – B

2. Answer **any two** questions :

- a) What are the types of movements of small intestine? Describe with suitable diagrams. What are the functions of each type of movement? 2+2+3
- b) Outline the differences between action potential curves of skeletal muscles and working myocardial cells. 7
- c) What is pulmonary surfactant? Explain the role of pulmonary surfactant in the maintenance of the alveolar stability. 2+5

Group – C

3. Write short notes on **any four** of the following :

- a) Secondary active transports across cell membrane.
- b) Timed vital capacity.
- c) PR interval in ECG.
- d) Gastrin.
- e) Peak expiratory flow rate.

Group – D

4. Give the physiological explanation of the following :

- a) Coagulation time is prolonged in obstructive jaundice.
- b) Anaemia occurs after gastrectomy.
- c) Thought of delicious food can induce salivary secretion.
- d) In cardiac disease, pulse rate can be less than the heart rate.

**The West Bengal University of Health Sciences
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Subject : Physiology
Paper : II

Full Marks: 50
Time : 2 ½ hours

Attempt all questions. The figures in the margin indicate full marks

Group – A

1. a) Give an account of the origin, course and termination of the pyramidal tract, with a diagram. What is Babinski sign? 10+2

or

- b) Name the hormones of islets of Langerhans. State the functions of insulin. Why polyphagia occurs in diabetes mellitus? 2+7+3

Group – B

2. Answer **any two** of the following :

- ✓ a) State briefly how urine is acidified. How excess acidification is prevented? What are the advantages of having an acidic urine? 2+3+2
- ✓ b) Name the common errors of refraction. Explain the use of corrective lenses in each of them. 2+5
- c) Define menstruation. Discuss briefly the hormonal control of menstrual cycle. 1+6

Group – C

3. Write short notes on **any four** of the following :

4 x 3

- ✓ a) REM sleep.
- ✓ b) Acromegaly.
- c) Evidences for ovulation.
- d) Pre-synaptic inhibition.
- ✓ e) Vasa recta.

Group – D

4. Give the physiological explanation of the following :

4 x

- ✓ a) Use of carbidopa is common with L-DOPA in the treatment of Parkinsonism.
- b) Pituitary tumour can cause defect in the fields of vision.
- c) Volume of urine can increase after drinking a large volume of water.
- ✓ d) Rinne's test can be positive, even when a person is partially deaf.

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Subject : Biochemistry
Paper : I

Full Marks : 50
Time : 2½ hours

Attempt all questions. The figures in the margin indicate full marks

Group – A

1. a) To obtain its physiological responses, a group of hormones bind with its G. protein coupled receptors on the plasma membrane and send certain signals intracellularly. Discuss elaborately the role of G. protein, adenylate cyclase and phospholipase C in this signal transduction pathway.

4+4+4

or

- b) According to International Union of Biochemists (IUB), enzymes are classified into six major groups. Give one example from each group mentioning the reactions catalysed by them. Indicate the substrate on which it acts, the product formed, involvement of coenzymes (if any) and the factors affecting the reactions.

2 x 6

Group – B

2. Answer *any two* of the following :

- a) Indicate the chemical structure and function of different glycosaminoglycans. 7
b) Describe the chemical structure of mRNA and tRNA. 3+4
c) Classify L-amino acids present in proteins. Explain how amino acids are separated and identified from a mixture of amino acids. 2+5

Group – C

3. Write short notes on *any four* of the following :

4 x 3

- a) Henderson Hasselbalch Equation.
b) Omega 3 fatty acids.
c) Protein folding.
d) Liposomes.
e) Selenocysteine.

Group – D

4 x 3

4. Explain the following statements:

- a) Isoenzymes assay is helpful in the diagnosis of myocardial infarction.
b) Myoglobin does not exhibit Bohr effect.
c) Defective Lactose digestion may lead to a clinical condition.
d) Synthetic nucleotides are used as drugs.

**The West Bengal University of Health Sciences
MBBS 1st Professional Examination 2015****Subject : Biochemistry
Paper : II****Full Marks : 50
Time : 2½ hours***Attempt all questions. The figures in the margin indicate full marks***Group – A**

1. a) Describe the metabolic reactions by which ammonia is formed and subsequently utilized in the body. Indicate the conditions which lead to hyperammonemia. Explain why ammonia intoxication is life threatening. 2+6+2+2

or

- b) Describe with flow diagram the metabolic steps in the initiation, elongation and termination phases of protein synthesis in the body. 4+5+3

Group – B

2. Answer **any two** of the following :

- a) Describe how ketone bodies are formed and subsequently degraded in the body. 3+4
- b) Describe the metabolic pathways for heme synthesis and indicate how it is controlled. 5+2
- c) Give an account of negative and positive regulation of lac operon in E.Coli. 7

Group – C

3. Write short notes on **any four** of the following :

4 x 3

- a) DNA replication in eukaryotes and prokaryotes.
- b) RNA editing.
- c) Tumour suppressor gene.
- d) Role of carnitine in fatty acid metabolism.
- e) Key gluconeogenic enzymes.

Group – D

4 x 3

4. Explain the following statements :

- a) Methanol toxicity can be explained biochemically.
- b) Hyperglycemia may lead to the formation of cataract in human lens.
- c) HDL is involved in reverse cholesterol transport.
- d) Lipoprotein lipase deficiency may lead to hypertriglyceridemia.