

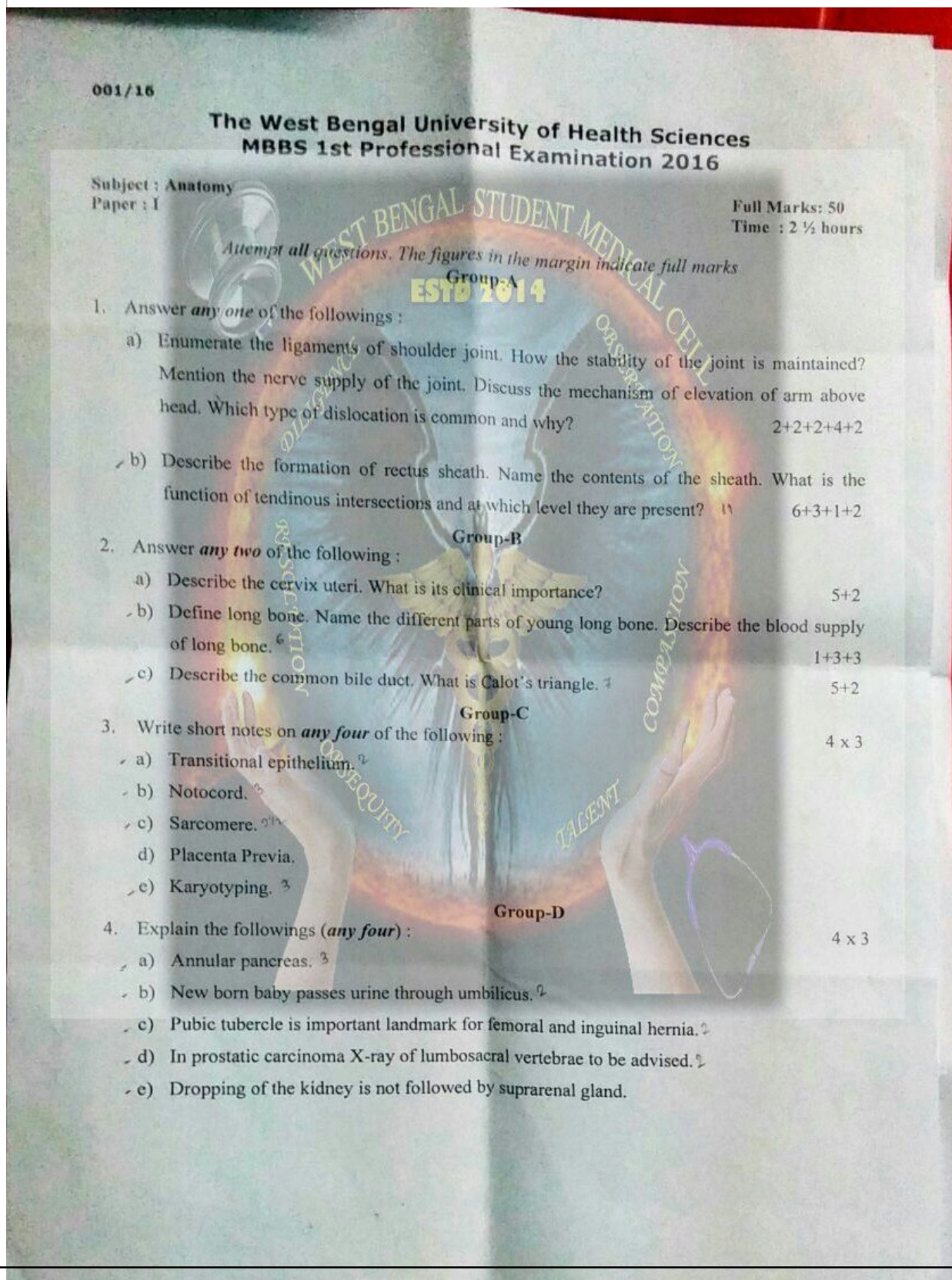
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001/16

The West Bengal University of Health Sciences
MBBS 1st Professional Examination 2016

Subject : Anatomy
Paper : II

Full Marks: 50
Time : 2 ½ hours

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

ESTD 2014
Group -A

1. Answer **any one** of the followings :

a) Describe the parotid gland under the following headings :

2+5+3+2

- i) Coverings.
- ii) Relations of parotid gland.
- iii) Nerve supply.
- iv) Frey's syndrome.

b) What is arterial circle of Willis? Describe the arterial supply of the superolateral surface of cerebral Hemisphere.

5+7

Group-B

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

a) Describe the derivatives of endodermal pharyngeal pouches. What is branchial fistula?

5+2

b) Describe the walls and communications of 3rd ventricle. What is non-communicating type hydrocephalus?

4+1+2

c) Enumerate the muscles of soft palate and their nerve supply. What are the different types of cleft palate and how they are formed?

3+4

Group-C

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

4 x 3

- a) Danger layer of scalp.
- b) Rima glottidis.
- c) Bronchopulmonary segments of left lung.
- d) Nasolacrimal duct.
- e) Ciliary body.

Group - D

4. Explain the following (**any four**) :

4 x 3

- a) Syringing of external ear may sometimes cause vasovagal attack of the patients.
- b) Fibrous pericardium is fused with central tendon of the diaphragm.
- c) Obliquity and length of the spinal nerve roots increase progressively from above down wards.
- d) Recurrent laryngeal nerve of both sides present different course.
- e) A patient of pituitary tumor suffers from bi-temporal hemianopia.

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**The West Bengal University of Health Sciences
MBBS 1st Professional Examination 2016**Subject : Physiology
Paper : I**ESTD 2014**Full Marks: 50
Time : 2 ½ hours*Attempt all questions. The figures in the margin indicate full marks***Group – A**

1. a) Define hemostasis. What are the stages of hemostasis? Describe with a flow chart, the mechanism of coagulation of blood. Name a few conditions where there can be increase in BT and CT. 1+2+7+2

or

- b) What are the junctional tissues of the heart? Describe where and how cardiac impulse originates and its spread through the heart. Write a note on the "pace-maker" of the heart. 2+6+4

Group – B

2. Answer *any two* questions :

- a) State with a diagram, the steps of HCL production by the cells of stomach. Write briefly how atropine, ranitidine and omeprazol can inhibit Hcl secretion in stomach. 4+3
- b) Write in short, the molecular basis of skeletal muscle contraction. What is the basis of rigor mortis? 5+2
- c) Give an account of CO₂ transport in blood. 7

Group – C

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

4 x 3

- a) Na⁺ K⁺ ATP ase pump.
- b) Ventilation perfusion ratio.
- c) Gap junction.
- d) Erythroblastosis fetalis.
- e) 2nd degree AV nodal block.

Group – D

4. Give the physiological explanation of the following :

4 x 3

- a) Anemia occurs in chronic renal failure.
- b) Coronary blood flow in the left ventricular wall is more during diastole of the heart.
- c) Aspirin in low dose is given to prevent thrombosis.
- d) Increased respiration continues even after stoppage of exercise.

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**The West Bengal University of Health Sciences
MBBS 1st Professional Examination 2016**Subject : Physiology
Paper : IIFull Marks: 50
Time : 2 ½ hours*Attempt all questions. The figures in the margin indicate full marks***Group – A**

1. a) Name the components of basal ganglia. Outline their chief connections and functions. 2+2+3+5
Briefly state the features of Parkinsonism.
- or
- b) Name the hormones of thyroid gland. State the functions of thyroxine. What is goitre and what are the types? 3+5+4

Group – B

2. Answer *any two* of the following : 7
- a) What is the role of Kidney in maintenance of acid-base balance in the body? 4+3
- b) Outline the stages of spermatogenesis with name of the main hormone at each stage. How the process is helped by the cells of sertoli? 5+2
- c) With a suitable diagram, explain the effects of lesion in the visual pathway at various levels. What is Argyll-Robertson pupil? 4 x 3

Group – C

3. Write short notes on *any four* of the following :
- a) Normal waves of EEG.
- b) Safe period method for contraception.
- c) LH surge.
- d) Addison's disease.
- e) Lateralisation in Weber's test.

Group – D

4. Give the physiological explanation of the following : 4 x 3
- a) Dissociation of sensations occur in syringomyelia.
- b) Pregnancy usually does not occur during lactation.
- c) Frusemide is used as a diuretic.
- d) When a person is exposed to some odour for sometime, the perception of that odour decreases.

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**The West Bengal University of Health Sciences
MBBS 1st Professional Examination 2016**Subject : Biochemistry
Paper : IFull Marks : 50
Time : 2½ hours*Attempt all questions. The figures in the margin indicate full marks***ESTD 1948 Group - A**

1. a) Compare the oxygen dissociation curves of hemoglobin and myoglobin in the light of their chemical structure. Explain the role of 2,3 bishosphoglycerate in oxygen binding of hemoglobin. Indicate the molecular mechanism of sickle cell anemia. State the reasons for difference of affinity of oxygen for HbA with that of HbF. 4+2+4+2

or

- b) Name the important buffer systems in the body. Enumerate the proton donor and acceptor components of principle extracellular and intracellular buffers. Indicate the role of lung and kidney in the regulation of blood pH. Explain the clinical importance of anion gap. 2+2+6+2

Group - B

2. Answer *any two* of the following :

- a) Explain the mechanism of allosteric regulation of enzyme activity using phosphofructokinase as an example. Mention the other mechanism by which the enzyme action is regulated. 4+3
b) Enumerate the different application of radioisotopes in research and clinical diagnosis. 7
c) Describe the primary, secondary and tertiary structure of collagen. 7

Group - C

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

4 x 3

- a) Blood group antigen.
b) Electrophoresis.
c) Marker enzymes for subcellular organelles.
d) Non functional plasma enzymes.
e) Elisa technique.

Group - D

4. Explain the following statements:

4 x 3

- a) Chaperones play very significant role in protein folding.
b) Acid number helps in the identification of rancidity in fats and oils.
c) Peroxisomes are the cell organelle which are involved in synthesis as well as breakdown of reactive oxygen species.
d) Hemoglobin A_{1c} provides valuable information for management of diabetes mellitus.

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**The West Bengal University of Health Sciences
MBBS 1st Professional Examination 2016**Subject : Biochemistry
Paper : IIFull Marks : 50
Time : 2½ hours*Attempt all questions. The figures in the margin indicate full marks***Group – A**

1. ☒ On complete oxidation, glucose leads to the production of carbon dioxide and water. Mention those metabolic steps where carbon dioxide is evolved. Give a detailed account of enzymes, coenzymes and control mechanism involved in these steps. Mention three examples of metabolic reactions where carbon dioxide is utilised in the process. 6+3+3

or

- b) Describe the steps involved in DNA replication in eukaryotes. Name two inhibitors of the process and their site of action. Give a brief account of DNA polymerase complex. 6+2+4

Group – B

2. Answer *any two* of the following :

- a) ☒ Describe with flow diagram the metabolism of chylomicrons and VLDL in the body. 4+3
b) ☒ Discuss in detail how heme is degraded and subsequently eliminated from the body. 5+2
c) ☒ Describe the salvage pathway for purine nucleotide synthesis. Give a brief account of salient disorders of purine metabolism. 5+2

Group – C

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

4 x 3

- a) ☒ Metabolic role of ascorbic acid.
b) ☒ Essential pentosuria.
c) ☒ Cytochrome P₄₅₀.
d) ☒ Point mutation.
e) ☒ Vitamin K cycle.

Group – D

4. Explain the following statements :

4 x 3

- a) ☒ In human body glucose can be converted fat while the reverse is not possible.
b) ☒ Intake of alcohol may aggravate the symptoms of gout.
c) ☒ Galactosemic patients are often associated with congenital cataract.
d) ☒ DNA is much more stable than RNA.