

## First M.B.B.S. Examination

## Anatomy

## Paper-I

Date : 01-01-2019, Tuesday]

[Max. Marks : 50

[Time : 3 Hours

- Instructions :** (1) Answer to the point.  
 (2) Figure to the right indicates marks.  
 (3) Draw diagrams wherever necessary.  
 (4) Write legibly.  
 (5) Use separate answer books for each section.

## SECTION I

1. Write applied anatomy of (any two) 2×5=10  
 a) Wallenberg syndrome  
 b) Parotid gland  
 c) Wrist drop
2. A) Write short notes on (any two) 2×3=06  
 1) Third ventricle  
 2) Cisterns  
 3) Transverse section of Mid-brain at the level of inferior colliculus
- B) Microanatomy of Palatine tonsil OR Cerebellum 1×3=03
3. Write short notes on
- a) Classification of joints OR end arteries 1×3=03
- b) Tertiary chorionic villus OR Notochord 1×3=03

## SECTION II

4. Write short notes on (any two) 2×5=10  
 a) Cavernous sinus  
 b) Tympanic membrane  
 c) Maxillary air sinus
5. A) Write short notes on (any two) 2×3=06  
 1) Ulnar nerve  
 2) Deltoid muscle  
 3) Superficial veins of upper limb
- B) Write a note on Development of Tongue OR Cleft palate 1×3=03
6. Enumerate (any six) 6×1=06  
 1) Branches of maxillary artery  
 2) Axillary lymph nodes  
 3) Branches of musculocutaneous nerve  
 4) Boundaries of cubital fossa  
 5) Parts of thyroid gland  
 6) Muscles of tongue  
 7) Attachment of flexor retinaculum  
 8) Basal nuclei



## First M.B.B.S. Examination

## Anatomy

## Paper-II

Date : 03-01-2019, Thursday]

[Max. Marks : 50

[Time : 3 Hours

- Instructions :** (1) Answer to the point.  
 (2) Figure to the right indicates marks.  
 (3) Draw diagrams wherever necessary.  
 (4) Write legibly.  
 (5) Use separate answer books for each section.

## SECTION I

1. Write applied anatomy of (any two) 2×5=10  
 a) Medial longitudinal arch  
 b) Haemorrhoids  
 c) Coronary circulation
2. A) Write short notes on (any two) 2×3=06  
 1) Pleura  
 2) Right atrium  
 3) Thoracic duct
- B) Microanatomy of Oesophagus OR Epiglottis 1×3=03
3. Write short notes on
- a) Down's syndrome OR Barr body 1×3=03
- b) Twinning OR Vasectomy 1×3=03

## SECTION II

4. Write short notes on (any two) 2×5=10  
 a) Pelvic diaphragm  
 b) Blood supply of Stomach  
 c) Uterine tube
5. A) Write short notes on (any two) 2×3=06  
 1) Gluteus maximus muscle  
 2) Dorsalis pedis artery  
 3) Common peroneal nerve
- B) Write a note on Development of Urinary bladder OR Pancreas 1×3=03
6. Answer in two or three sentences (any six) 6×1=06  
 1) Features of Large intestine  
 2) Greater omentum  
 3) Varicocele  
 4) Fascia lata  
 5) Boundaries of epiploic foramen  
 6) Mediastinal relations of left lung  
 7) Ligaments of Liver  
 8) Adductor tubercle



## First M.B.B.S. Examination

## Physiology

## Paper-I

Date : 05-01-2019, Saturday]

[Max. Marks : 50

[Time : 3 Hours

- Instructions :** (1) Answer to the point.  
 (2) Figure to the right indicates marks.  
 (3) Draw diagrams wherever necessary.  
 (4) Write legibly.  
 (5) Use separate answer books for each section.

**Section – I**

- Q 1. Write briefly on only two 2x5=10  
 a. Rh Incompatibility  
 b. Differences between Obstructive and Restrictive Lung Diseases.  
 c. Abnormalities of Micturition.
- Q 2. A) Write briefly on only two 2x3=6  
 a. Plasma Proteins: Functions and Values  
 b. Fate of Hb  
 c. Immunoglobulins  
 B) Write briefly on any one 1x3=3  
 a.  $\text{Na}^+\text{-K}^+$  ATPase Pump  
 b. All or None Response
- Q 3. Write briefly on only two 2x3=6  
 a. Differences between Cortical and Juxtamedullary Nephron  
 b. Transport Maximum  
 c. Rennin-Angiotensin Mechanism

**Section – II**

- Q 4. Write briefly on only two 2x5=10  
 a. Action Potential in Contractile Cardiac Muscle-Ionic Basis and Diagram  
 b. Left Ventricular Pressure Changes During Cardiac Cycle With Graph  
 c. Determinants of Blood Pressure
- Q 5. A) Write briefly on only two 2x3=6  
 a. Surfactant  
 b. Timed Vital Capacity  
 c. Neural Regulation of Respiration  
 B) Write briefly on any one 1x3=3  
 a. Oxygen Deficit and Oxygen Debt  
 b. Acute Mountain Sickness
- Q 6. Describe Briefly in 2-3 sentences (any six): 6x1=6  
 a. Refractory Period  
 b. Saltatory Conduction  
 c. Physiological Shunt  
 d. Laplace's Law  
 e. Windkessel Effect  
 f. Cushing's Reflex  
 g. Splay  
 h. Autoregulation



## First M.B.B.S. Examination

## Physiology

## Paper-II

Date : 07-01-2019, Monday]

[Max. Marks : 50

[Time : 3 Hours

- Instructions :** (1) Answer to the point.  
 (2) Figure to the right indicates marks.  
 (3) Draw diagrams wherever necessary.  
 (4) Write legibly.  
 (5) Use separate answer books for each section.

**Section – I**

- Q 1. Write briefly on only two 2x5=10  
 a. Peptic Ulcer: Definition, Causes and Mucosal Protective Mechanisms  
 b. Diabetes Mellitus: Definition, Causes and Hormonal Regulation of Glucose Metabolism  
 c. Diseases of Neuromuscular Junction
- Q 2. A) Write briefly on only two 2x3=6  
 a. Hypothalamo - Hypophyseal Axis  
 b. Action of Thyroid Hormone on Growth and Development  
 c. Regulation of Glucocorticoid Secretion
- B) Write briefly on any one 1x3=3  
 a. Role of Oxytocin in Parturition  
 b. Actions of Testosterone
- Q 3. Write briefly on only two 2x3=6  
 a. Functions of Liver  
 b. Nerve Supply of GIT  
 c. Vomiting Mechanism

**Section – II**

- Q 4. Write briefly on only two 2x5=10  
 a. Properties of Receptors  
 b. Muscle Spindle: Structure and Function  
 c. Differences between UMN lesion and LMN Lesion.
- Q 5. A) Write briefly on only two 2x3=6  
 a. Differences Between Rods and Cones  
 b. Functions of Middle Ear  
 c. Structure of A Taste Bud
- B) Write briefly on any one 1x3=3  
 a. Motor Unit  
 b. Molecular Basis of Smooth Muscle Contraction
- Q 6. Describe Briefly in 2-3 sentences (any six): 6x1=6  
 a. Basal Electrical Rhythm  
 b. Steatorrhoea  
 c. Dale's Vasomotor Reversal  
 d. Tympanic Reflex  
 e. Presbyopia  
 f. Referred Pain  
 g. Dwarfism  
 h. Night Blindness





**First M.B.B.S. Examination**  
**Bio-Chemistry**  
**Paper-I**

**Date : 09-01-2019, Wednesday]**  
**[Time : 3 Hours**

**[Max. Marks : 50**

- Instructions :** (1) Answer to the point.  
(2) Figure to the right indicates marks.  
(3) Draw diagrams wherever necessary.  
(4) Write legibly.  
(5) Use separate answer books for each section.

Section 1

- 1) Write short notes on (any two): 2x5=10 marks
- 1) Diabetic ketoacidosis
  - 2) Von Gierk's disease
  - 3) Biochemical basis of ammonia toxicity
- 2) Write short notes on (any three): 3x3=9 marks
- 1) Physiologically important glycosides
  - 2) Serum enzymes in myocardial infarction
  - 3) Regulation of cholesterol synthesis
  - 4) Acute intermittent porphyria
  - 5) Suicidal inhibition of enzymes
- 3) Write short notes on (any two): 2x3=6 marks
- 1) Applications of ELISA (enzyme-linked immunosorbent assay)
  - 2) Role of kidneys in regulation of blood pH
  - 3) Fluid mosaic model of cell membrane

Section 2

- 4) Write short notes on (any two): 2x5=10 marks
- 1) Reciprocal regulation of glycogenesis and glycogenolysis
  - 2) Fatty acid synthase complex
  - 3) Significance of HMP (hexose mono phosphate) shunt

**P.T.O.]**

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5) Write short notes on (any three):

3x3=9 marks

- 1) Water pollutants
- 2) Oncogenes
- 3) Uncouplers of oxidative phosphorylation
- 4) Structure of immunoglobulin
- 5) Biological effects of radiation on tissues

6) Case Study (Answer any six):

6x1=6 marks

During a hunger strike, one student, who took only water for next 15 days, when his condition deteriorated, he was admitted in a hospital. Blood levels of sugar and amino acids were found to be decreased; urine had ketone bodies, urinary non protein nitrogen was increased.

Answer the following (Any six):

- 1) The brain consumes 65% of the total circulating glucose daily .How does brain obtain energy during starvation?
  - 2) Can brain utilize ketone bodies to meet part of its energy requirement?
  - 3) How does starvation trigger gluconeogenesis and lipolysis?
  - 4) What is the fate of amino nitrogen generated in the liver during the process of gluconeogenesis?
  - 5) What are the sources of two carbon atoms in urea molecule?
  - 6) Why does ketoacidosis develop in the patient?
  - 7) What happens to "branched chain amino acids" in the initial phase of starvation?
  - 8) What happens to alanine in the initial phase of starvation?
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**First M.B.B.S. Examination**  
**Bio-Chemistry**  
**Paper-II**

**Date : 11-01-2019, Friday]**

**[Max. Marks : 50**

**[Time : 3 Hours**

- Instructions :** (1) Answer to the point.  
(2) Figure to the right indicates marks.  
(3) Draw diagrams wherever necessary.  
(4) Write legibly.  
(5) Use separate answer books for each section.

Section 1

1) Write short notes on (any two): 2x5=10 marks

- 1) Alcohol and acute gouty arthritis
- 2) Rickets and role of vitamin D
- 3) Maple syrup urine disease

2) Write short notes on (any three): 3x3=9 marks

- 1) Watson crick model of DNA
- 2) Salvage pathway of purine synthesis
- 3) Polymerase chain reaction
- 4) Lac operon concept
- 5) Post translational modifications

3) Write short notes on (any two): 2x3=6 marks

- 1) Basal metabolic rate (BMR)
- 2) Dietary fiber
- 3) Nitrogen balance

Section 2

4) Write short notes on (any two): 2x5=10 marks

- 1) Biochemical functions of selenium
- 2) Transamination
- 3) Secondary structure of proteins

**P.T.O.]**

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5) Write short notes on (any three):

3x3=9 marks

- 1) Biochemical role of vitamin C
- 2) Regulation of purine synthesis
- 3) Sources of carbon and nitrogen atoms in purine ring
- 4) Hemopoetic vitamins
- 5) Orotic Aciduria

6) Case Study (Answer any six):

6x1=6 marks

One evening, a 40 year old male a businessman enjoyed a party in which he consumed meat and alcohol. The next morning he woke up with excruciating pain in great toe. He was admitted in the hospital, on examination, he had fever, his great toe was swollen, red, and too hot to touch and was tender and stiff. Lymph nodes were normal not tender. The laboratory data were:

Blood glucose : 130mg/dl

Blood Urea : 38mg/dl

Serum creatinine : 1mg/dl

Serum uric acid : 10mg/dl

Urine pH : 6.2

- 1) What is the most probable diagnosis?
  - 2) Which part of the case history & laboratory data helped you to reach the diagnosis?
  - 3) What is the origin and fate of uric acid?
  - 4) What are the causes of primary and secondary Hyperuricemia?
  - 5) What is the cause of gouty arthritis? Explain the pathogenesis.
  - 6) Which type of food will precipitate an attack of gout?
  - 7) What is the short term and long term treatment of gout?
  - 8) What is the biochemical basis of such treatment policy?
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