

FIRST PROFESSIONAL M.B.B.S DEGREE EXAMINATION, SEPTEMBER 2002
ANATOMY – Paper I
(New Scheme)

Time: Three Hours

Maximum 50 marks

Answer Sections A and B in **separate** answer-books.

Draw labelled diagrams wherever necessary

Question 2 should be answered first in the response sheet for MCQs.

Section A

1. Describe the shoulder joint under the following headings:-

- (a) Type
- (b) Bones taking part (articular surfaces)
- (c) Capsule and ligaments.
- (d) Movements and muscles producing them

(1+1+3+5 = 10 marks)

2. Multiple Choice Questions (on attached sheet)

(5 marks)

3. Write short notes on:

- (a) Extent, relations and branches of arch of aorta
- (b) Attachments, nerve supply and actions of Adductor magnus muscle.

(2x5 = 10 marks)

Section B

4. Write briefly on:

- (a) Klienfelter's syndrome.
- (b) Primary cartilaginous joints.
- (c) Clavipectoral fascia
- (d) Superficial palmar arch
- (e) Formation, course and termination of cephalic vein.

(5x2 = 10 marks)

5. Write short notes on:

- (a) Thoracic part of oesophagus.
- (b) What are pleural recesses? Name them and give their importance.
- (c) Blood supply of a long bone.
- (d) Formation – contents and applied aspects of femoral sheath.
- (e) Cutaneous innervation of dorsum of foot.

(5x3 = 15 marks)

ANATOMY – Paper II
2. MULTIPLE CHOICE QUESTIONS

Time: 10 Minutes

Maximum: 5 Marks

Note:-

- 1. Do not write anything on the question paper.
- 2. Write your register number on the answer sheet provided.

Select the **one** most **appropriate** response and encircle the corresponding alphabet against each question number in the answer sheet provided. In the answer sheet enter the

total number of your response in the appropriate boxes provided.

Each question carries ½ mark.

1. “Winging of Scapula” is due to the injury of:
(A) Long thoracic nerve (B) Dorsal scapular nerve
(C) Radial nerve (D) Axillary nerve
2. The first carpometacarpal joint is a:
(A) Pivot joint (B) Plane joint.
(C) Condyloid joint (D) Saddle joint
3. Allantois is a diverticulum of:
(A) Yolk-sac (B) Intra-embryonic Coelome
(C) Amniotic cavity (D) Extra-embryonic Coelome
4. Diploid number of chromosomes is found in:
(A) Primary spermatocyte (B) Secondary spermatocyte
(C) Spermatid (D) Spermatozoa
5. Dorsiflexion of foot is produced by:
(A) Peroneus longus (B) Peroneus brevis
(C) Tibialis posterior (D) Tibialis anterior.
6. The following statements regarding the blood supply of heart are true **except**:
(A) The coronary arteries are branches of ascending aorta
(B) The anterior interventricular branch is seen on the sternocostal surface of heart.
(C) The great cardiac vein accompanies circumflex branch of left coronary artery.
(D) S.A Node is supplied by right coronary artery.
7. The following statements are true about medium sized arteries **except**:
(A) The subendothelial layer is very thin.
(B) The internal elastic membrane is not distinct and it merges with the elastic fibres of tunica media.
(C) The muscular layer is prominent and consists of circularly arranged smooth muscle fibres
(D) The tunica adventitia is as thick as tunica media.
8. The nerve felt behind the medial epicondyle is:
(A) Radial nerve (B) Ulnar nerve
(C) Median nerve (D) Posterior interosseous nerve
9. The contents of adductor canal include the following **except**:

- (A) Femoral artery (B) Femoral vein
(C) Saphenous nerve (D) Great Saphenous vein

10. The following are true regarding thoracic duct except:

- (A) It is the largest lymph vessel in the body.
(B) It enters the thorax through inferior vena caval orifice of the diaphragm.
(C) The vena azygos lies to the right of thoracic duct.
(D) It opens into the junction of subclavian vein and internal jugular vein on the left side.

FIRST PROFESSIONAL M.B.BS DEGREE EXAMINATION, SEPTEMBER 2002
ANATOMY – Paper II

Time: Three Hours

Maximum: 50 marks

*Answer Sections A and B in **Separate** answer books.*

Draw labeled diagrams wherever necessary

Question 2 should be answered first in the response sheet for M.C.Qs.

Section A

1. Give the formation, features, blood supply and nerve supply of lateral wall of nasal cavity.
(2+4+2+2 = 10 marks)
2. Multiple Choice Questions (on attached sheet). (5 marks)
3. Write short notes on:
 - (a) Classify white matter of cerebrum. Name the parts, relations and distribution of fibres of corpus callosum.
 - (b) Relation and blood supply of second part of Duodenum.

(2x5 = 10 marks)

Section B

4. Write short notes on:
 - (a) Name the nuclei of trigeminal nerve. Give their positions.
 - (b) Give the attachments, nerve supply and actions of superior oblique muscle of eye- ball.
 - (c) Give the various positions and blood supply of appendix.
 - (d) Microscopic structure of ovary.
5. Write short notes on:
 - (a) Boundaries and contents of ischiorectal fossa
 - (b) Nerve supply of tongue on the basis of development.
 - (c) Blood supply of thyroid gland.
 - (d) Portocaval anastomosis and its importance.
 - (e) Normal position of uterus in a nulliparous woman. How is the organ developed?

(10Marks)

(5x3 = 15 marks)

ANTOMY – Paper II
2. MULTIPLE CHOICE QUESTIONS

Time: 10 minutes

Maximum: 5 marks

- Note:-**
1. Do not write anything on the question paper.
 2. Write your register number on the answer sheet provided.
 3. Select the appropriate answer and encircle the alphabet against each question in the answer sheet provided.
 4. In the answer sheet enter the total number of your response in the appropriate boxes provided.
 5. Each question carries ½ mark.

1. The hilum of right kidney contains the following **except**:
(A) Renal Pelvis (B) Tributaries of renal vein
(C) Branches of renal artery (D) Part of right supra renal gland.
2. The following are the constituents of spermatic cord **except:-**
(A) Cremasteric artery and pampiniform plexus
(B) Genital branch of genito femoral nerve.
(C) Ilio-inguinal nerve
(D) Artery to vas and testicular artery.
3. The basal ganglia include the following **except**:
(A) Caudate nucleus (B) Lentiform nucleus
(C) Amygdaloid nuclear complex (D) Dentate nucleus
4. Middle meningeal artery is a branch of:
(A) Maxillary artery (B) Inferior alveolar artery
(C) Superficial temporal artery (D) Ophthalmic artery
5. Hypoglossal nerve supplies the following muscles **except**:
(A) Hyoglossus (B) Palatoglossus (C) Styloglossus (D) Genioglossus
6. The muscle which depresses the mandible is:
(A) Temporalis (B) Masseter
(C) Medial Pterygoid (D) Lateral Pterygoid
7. The superior mesenteric artery supplies:
(A) Caecum and appendix (B) Gall bladder
(C) First part of duodenum (D) Stomach
8. Kupffer cells are found in:
(A) Liver (B) Lungs (C) Gall Bladder (D) Thyroid gland
9. The following statements regarding spleen are true **except**:
(A) The largest lymphoid tissue collection in the body.
(B) The capsule invests the organ and from it trabeculae pass inwards which branch to form the frame work.
(C) There is a distinct cortex and medulla
(D) Red pulp and white pulp are present.
10. The following regarding the recurrent laryngeal nerve are true except:
(A) Supplies all muscles of larynx.

- (B) Is a mixed nerve.
- (C) Passes in close relation to inferior thyroid artery
- (D) Is sensory to larynx below the vocal folds.

PHYSIOLOGY – Paper I
(New Scheme)

Time: Three Hours

Maximum: 50 marks

*Answer Sections A and B in **Separate** answer books.*

Draw diagrams wherever necessary

Question 2 should be answered first in the response sheet provided.

Section A

1. In a tubular statement give the agglutinogen and agglutinin content of different blood groups. Describe the clinical importance of blood groups. How the blood is preserved in blood bank? (3+5+2 = 10 marks)
2. Multiple Choice Questions (attached) (5 marks)
3. Write short notes on:
 - (a) Draw the left ventricular pressure volume-curve during a cardiac cycle. (2+3 = 5 marks)
 - (b) Enterohepatic circulation and its importance. (3+2 = 5 marks)

Section B

4. (a) Define “functional residual capacity”. Give its normal value. Mention its physiological significance.
 - (b) Functions of bile.
 - (c) Cystometrogram.
 - (d) Central cyanosis]
 - (e) Bain bridge reflex. (5x3 = 15 marks)
5. (a) Juxtaglomerular apparatus.
 - (b) Cholecystokinin pancreozymin.
 - (c) Exchangen blood vessels
 - (d) Dypnoeic index.
 - (e) Renal threshold for glucose.

(5x2 = 10 marks)

2. MULTIPLE CHOICE QUESTIONS
PHYSIOLOGY – Paper I

Time: 10 Minutes

Maximum: 5 marks

- Note:-**
1. Do not write anything on the question paper.
 2. Write your register number on the answer sheet provided.
 3. Select the **appropriate answer** and encircle the alphabet against each question in the answer sheet provided.
 4. In the answer sheet enter the total number of your answers in the appropriate box provided.
 5. Each question carries ½ mark.

1. Given the R-R interval in E.C.G = 0.6 sec., the heart rate would be:
(A) 60/min. (B) 72/min.
(C) 100/min. (D) 120/min.
2. The capacitance blood vessel includes:
(A) Large arteries (B) Arterioles.
(C) Capillaries (D) Veins.
3. Pernicious anaemia is treated by injecting.
(A) Vitamin A (B) Vitamin B₆
(C) Iron (D) Vitamin B₁₂
4. In allergic conditions, there is:
(A) Basophilia (B) Eosinophilia
(C) Neutrophilia (D) Haemophilia
5. Glomerular filtrate rate depends upon all the following **except:-**
(A) Peritubular capillary hydrostatic pressure.
(B) Glomerular capillary hydrostatic pressures.
(C) Colloidal osmotic pressure in Bowman's capsule.
(D) Colloidal osmotic pressure in glomerular capillaries.
6. Obligatory water absorption occurs in:
(A) Proximal convoluted tubule. (B) Collecting duct.
(C) Tip of loop of Henle. (D) Distal convoluted tubule.
7. Pancreozymin stimulates the release of:
(A) Pancreatic juice rich in bicarbonate (B) Pancreatic juice rich in enzymes.
(C) Gastric juice (D) Bile from liver.
8. Gastric emptying is facilitated by all the following **except:-**
(A) Fatty diet. (B) Carbohydrate diet.
(C) Protein diet. (D) Liquid diet.
9. The Spirometer cannot measure:
(A) Tidal volume (B) Vital capacity
(C) Residual volume (D) Expiratory reserve volume
10. Acclimatization includes all the following **except:**

- (A) Brady cardia (B) Hyper ventilation.
(C) Increase in 2-3-DPG. (D) Increase in Erythropoietin

(10x1/2 = 5 marks)

PHYSIOLOGY – Paper II

Time: Three Hours

Maximum: 50 marks

*Answer Sections A and B in **separate** answer-books.*

Draw diagrams wherever necessary.

***Question 2** should be answered first in the response sheet provided.*

Section A

1. Describe the hormonal control of blood glucose. Add a note on “Glucose Tolerance Test”.
(6+4 = 10 marks)
2. Multiple Choice questions (attached). (5 marks)
3. Write briefly on:
 - (a) Neuromuscular transmission (5 marks)
 - (b) Presbyopia and its correction (5 marks)

Section B

4. Write short notes on:
 - (a) Intension tremor.
 - (b) Electromyogram
 - (c) Endogenous opioids
 - (d) Colour vision.
 - (e) Tests for ovulation (5x3 = 15 marks)
5. Write briefly on:
 - (a) Spasticity.
 - (b) Oral contraceptives
 - (c) Immunological test of pregnancy.
 - (d) Cretinism
 - (e) Acromegaly (5x2 = 10 marks)

2. MULTIPLE CHOICE QUESTIONS
PHYSIOLOGY – Paper II

Time: 10 Minutes

Maximum: 5 marks

- Note:-**
1. Do not write anything on the question paper.
 2. Write your register number on the answer sheet provided.
 3. Select the **appropriate answer** and encircle the alphabet against each question in the answer sheet provided.
 4. In the answer sheet enter the total number of your answers in the appropriate box provided.
 5. Each question carries $\frac{1}{2}$ mark.

1. Most rapidly adapting receptors are:
(A) Pacinian corpuscles (B) Pain receptors
(C) Thermoreceptors (D) Photoreceptors
2. Resting tremor is observed in the lesions of:
(A) Spinal cord. (B) Medulla oblongata
(C) Basal ganglia (D) Mid brain.
3. In deep sleep, E.E.G shows:
(A) Alpha waves (B) Beta waves
(C) Theta waves (D) Delta waves
4. Conduction deafness results, if the damage is in:
(A) Auricle of external ear. (B) Basilar membrane
(C) Incus (D) Auditory nerve.
5. All the following structure of the eyes are transparent **except:-**
(A) Cornea (B) Sclera
(C) Aqueous humour (D) Vitreous body.
6. Myxoedema is due to:
(A) An excess of cortisol (B) Deficiency of insulin.
(C) Deficiency of thyroxine (D) Excess of calcitonin.
7. Sodium retention is brought about by:
(A) Androgen (B) Aldosterone.
(C) Glucagon (D) 1-25 (OH)₂ cholecalciferol)
8. Normal plasma level of ionic calcium is:
(A) 9-11 mg/dL (B) 2-3 mg/dL.
(C) 4-5 mg/dL. (D) 14-16 mg/dL.
9. The hormone whose secretion is not under the control of pituitary is :
(A) Oestrogen (B) Progesterone
(C) Triiodothyronin (D) Glucagon.
10. It is **not** possible to tetanize:
(A) Skeletal muscle. (B) Visceral smooth muscle

(C) Cardiac muscle (D) Multi-unit smooth muscle. (10x^{1/2} = 5 marks)

FIRST PROFESSIONAL M.B.B.S DEGREE EXAMINATION, SEPTEMBER 2002
BIOCHEMISTRY – Paper I
(New Scheme)

Time: Three Hours

Maximum: 50 marks

- Note:-** 1. Answer Sections A and B in **separate** answer-books.
2. Attempt all questions.
3. Read the questions carefully and give specific answers avoiding unnecessary details.
4. The Multiple Choice Questions (M.C.Q) should be answered in the response sheet provided along with the Question Paper. The M.C.Q. Should be answered first. The response sheet should be handed over to the Invigilator at the close of ten minutes.

Section A

1. Give the reactions of citric acid cycle along with its importance and energetics. (6+2+2 = 10 marks)
2. Write briefly on:
(a) Formation of ketone bodies and their utilization.
(b) Major fate of ammonia produced in human body. (2x5 = 10 marks)
3. Multiple Choice Questions (separate sheet attached) (5 marks)

Section B

4. (a) Write briefly on competitive inhibition.
(b) How is iron absorbed from the GI Tract?
(c) Define oxidative phosphorylation. Name any *four* uncouplers of oxidative phosphorylation.
(d) Write briefly on hepatic jaundice.
(e) Write briefly on importance of dietary fibres. (5x3 = 15 marks)
5. (a) What is the diagnostic importance of serum LDH?
(b) Mention the composition of any two glycerophospholipids with their functions.

- (c) Write briefly on any two glycogen storage diseases.
- (d) Write briefly on Phenylketonuria.
- (e) Write briefly on detoxification by conjugation. (5x2 = 10 marks)

3. MULTIPLE CHOICE QUESTIONS BIOCHEMISTRY – Paper I

Time: 10 Minutes

Maximum: 5 marks

- Note:-**
1. Do not write anything on the question paper.
 2. Write your register number on the answer sheet provided.
 3. Select the **appropriate answer** and encircle the alphabet against each question in the answer sheet provided.
 4. In the answer sheet enter the total number of your answers in the appropriate box provided.
 5. Each question carries ½ mark.

1. The amino acid which has maximum buffering capacity at physiological pH is:
(A) Arginine (B) Alanine
(C) Histidine (D) Glutamic acid
2. Iodoacetate inhibits enzyme by reacting with which particular group at the active site of the enzyme?
(A) Amide. (B) Sulfhydryl
(C) Carboxyl. (D) Imidazole.
3. The glycosidic linkage seen in lactose is:
(A) Alpha 1-4 (B) Beta 1-4
(C) Beta 1-6 (D) Alpha 1-6
4. In an immunoglobulin molecule, the antigen binding capacity resides at the:
(A) Constant region (B) Variable region
(C) Fe (fraction crystallisable) region. (D) J (joining) piece.
5. Muscle glycogen will not serve as a precursor of blood sugar because:
(A) Phosphorylase enzyme is absent in muscle.
(B) Receptor for glucagon is absent in muscle.
(C) Glucose 6-phosphatase enzyme is absent in muscle.
(D) Glycogen is converted to lactic acid in muscle.
6. The rate limiting enzyme of de novo synthesis of fatty acids is:
(A) Acetyl CoA transacylase. (B) Acetyl CoA carboxylase.
(C) Acetyl CoA dehydrogenase (D) B-Hydroxy acyl CoA dehydrogenase.
7. Hypercholesterolemia is seen in the following conditions **except**:
(A) Uncontrolled diabetes mellitus (B) Thyrotoxicosis

- (C) Nephrotic syndrome. (D) Obstructive jaundice
8. Blood urea level is markedly increased in:
 (A) Liver diseases (B) Renal diseases
 (C) Cardiac diseases (D) Protein intake.
9. Negative nitrogen balance is observed in:
 (A) Pregnancy (B) Chronic fever
 (C) Growth period (D) Convalescence.
10. Which of the following statement is most appropriate with regard to Bence-Jones Proteins?
 (A) It is seen in urine of 80% cases of multiple myeloma.
 (B) It gives a positive Benedict's test in urine.
 (C) It is precipitated when heated between 45° and 60 ° centigrade.
 (D) If present in urine, prognosis is better.

FIRST PROFESSIONAL M.B.B.S DEGREE EXAMINATION, SEPTEMBER 2002
 BIOCHEMISTRY – Paper II
 (New Scheme)

Time: Three Hours

Maximum: 50 marks

Note:- 1. Answer Sections A and B in **separate** answer-books.

2. Attempt **all** questions.

3. Read the questions carefully and give specific answers avoiding unnecessary details.

4. The Multiple Choice Questions (M.C.Q) should be answered in the response sheet provided along with the Question Paper. The M.C.Q. Should be answered first. The response sheet should be handed over to the Invigilator at the close of ten minutes.

Section A

1. Describe the genetic code. How codons are used during translation? Add a note on inhibitors of protein biosynthesis.
2. (a) Explain point mutation of a gene. Write the impacts of point mutation in the formation of an abnormal haemoglobin.
 (b) Name for different types of nucleotides giving their biological importance.

(2x5 = 10 marks)

3. Multiple Choice Questions (Separate sheet attached) (5 marks)

Section B

4. (a) Explain the following: (i) Introns; and (ii) Exons
 (b) Write note on tumor markers.

- (c) Write briefly on ELISA.
 - (d) describe the lac operon model.
 - (e) How uric acid is formed in the body? Write note on hyperuricemia.
- (5x3 = 15 maks)

- (a) Write short note on Augmented histamine test.
- (b) What is detoxification? Name the mechanisms available for detoxification with one example each.
- (c) Write briefly on Anion Gap.
- (d) Write briefly on enzyme assays for liver function.
- (e) Write briefly on respiratory acidosis.

(5x2 = 10 marks)

3. MULTIPLE CHOICE QUESTIONS

Paper II - BIOCHEMISTRY

Time: 10 Minutes

Maximum: 5 marks

- Note:-**
- 1. Do not write anything on the question paper.
 - 2. Write your register number on the answer sheet provided.
 - 3. Select the **appropriate** answer and encircle the alphabet for each question in the response sheet provided.
 - 4. In the response sheet enter the total number of your answers in the appropriate box provided.
 - 5. Each question carries ½ mark.

- 1. The inhibitor of transcription is:
 - (A) Actinomycin
 - (B) Streptomycin
 - (C) Puromycin
 - (D) Chloramphenicol
- 2. The serum enzyme elevated in alcoholic cirrhosis of liver is:
 - (A) Alanine transaminase
 - (B) Aspartate transaminase.
 - (C) Alcohol dehydrogenase
 - (D) γ Glutamyl transpeptidase
- 3. Urea clearance is less than GFR because it is:
 - (A) Partially secreted by the renal tubules
 - (B) Partially reabsorbed by the tubules.
 - (C) Only filtered by glomeruli.
 - (D) None of these.
- 4. The metabolic water is derived by the oxidation of:
 - (A) Carbohydrates
 - (B) Proteins.
 - (C) Fats
 - (D) All of them.

5. A continuous supply of energy to the body is necessary to meet the requirements of:
(A) BMR (B) SDA
(C) Physical activity (D) All of them.
6. Which of the following statements is correct?
(A) Restriction enzyme B can be used to differentiate DNA coding for HbA from Hbs.
(B) Restriction enzyme B can be used to differentiate DNA coding for HbA from HbC.
(C) Restriction enzyme C can be used to differentiate DNA coding for HbA from HbC.
(D) Restriction enzyme A can be used to differentiate DNA coding for HbA from Hbs.
7. One class of RNA characteristically contains unusual purine and pyrimidines. This RNA is:
(A) tRNA (B) mRNA
(C) rRNA (D) RNA with a 3'-poly-A tail.
8. All the enzymes given below are useful in the diagnosis of liver diseases **except:-**
(A) CPK (B) ALT
(C) AST (D) Alkaline phosphatase.
9. Degradation of heme to bilirubin releases one molecule of:
(A) Carbon dioxide (B) Carbon monoxide
(C) Ammonia (D) water
10. Blood urea level is markedly increased in:
(A) Liver diseases (B) Renal diseases
(C) Cardiac diseases (D) Gastrointestinal stasis. (10x1/2 = 5 marks)