M.Sc. [Medical Biochemistry]

BF/2008/11

Molecular Biology

[Paper - I]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions.

1a. Define genetic code and discuss its characteristic features. [12]

1b. Discuss roles of sigma factor and rho factor in initiation and termination, respectively, of the E. coli gene-transcription. [13]

2. **Explain briefly:**

a. Telomere erosion. [8]

b. Site directed mutagenesis. [8]

c. Post-translational modification of polypeptide chain. [9]

3. **Compare and contrast:**

a. Features of DNA and RNA in terms of their chemical composition, structures and functions. [8]

b. Genomic library and cDNA library. [8]

c. Point mutation and frameshift mutation. [9]

4. **Discuss:**

a. DNA vaccines. [6]

b. Southern blot in detection of sickle cell mutation. [7]

c. Exonuclease activities of bacterial DNA polymerases. [6]

d. Expression vectors. [6]

M.Sc. [Medical Biochemistry]

BF/2008/11

Immunochemistry

[Paper - II]

M.M. : 100 **Time : 3 Hours**

Note : Attempt any TEN questions.

1. Write an essay on acquired immunity. [10]

2. Name the mediators of Inflammation and give their actions. [10]

3. Discuss Anaphylaxis. [15]

4. Write an essay on Acquired immunodeficiency syndrome. [20]

5. What is Autoimmunity? Explain its mechanism and give principles of treatment of autoimmune diseases. [15]

6. **Write notes on:** [10]
   a. Role of Lymphocytes in immunity.
   b. Haptens.

7. **Write notes on:** [20]
   a. Radioimmunoassay.
   b. Chemiluminescence.
   c. Transgenic animals.
   d. Genetic engineering.

M.Sc. [Medical Biochemistry]

BF/2008/11

Nutrition & Dietetics

[Paper - III]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions.

1. a. Write about Oxidants, antioxidants and nutritional back up in oxidative stress. [10]
   b. Breast feeding of infants is a better option- give your opinion for justification. [8]
   c. Write a note on drinking water and dental ailments. [7]

2. a. Write in detail about nutritional back up for pregnant woman and lactating mother. [10]
   b. Give a brief note on laboratory tests for iron deficiency anaemia. [8]
   c. Write in brief about medical nutrition therapy for renal disorders. [7]

3. a. Discuss about diets and fluid intake for an athletic person. [10]
   b. Write a note on Vitamin D. [8]
   c. How to evaluate the quality of dietary proteins. [7]

4. **Write short notes on:** [5x5]
   a. Food allergy and food intolerance.
   b. Endemic goitre.
   c. Scurvy.
   d. Neurolathyrism.
   e. Pesticides in foods.

M.Sc. [Medical Biochemistry]

BF/2008/11

Clinical Biochemistry and Medical Statistics

[Paper - IV]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions.

1a. Discuss synthesis of Thyroid hormones. How will you diagnose patient suffering from Thyroid disorder? [15]

1b. Discuss etiopathogenesis of Renal ricket. [5]

1c. What is Gestational diabetes? How will you diagnose it. [5]

2. **Write briefly on:**

a. Student 't' test. [7]

b. Tyrosine kinase receptors. [6]

c. Clinical importance of Ceruloplasmin. [6]

d. Clinical significance of TPP [Thiamine Pyrophosphate]. [6]

3. **Describe briefly:**

a. Measurement of anion gap in acid base disorders. [7]

c. Homocysteinemia. [6]

d. Troponins. [6]

e. Mass spectrometry. [6]

4. **Briefly discuss:**

a. Primary and secondary gout. [7]

b. Z-test. [6]

c. Total quality management. [6]

d. Regulation of hormone secretion. [6]

M.Sc. [Medical Anatomy]

BF/2008/11

General Anatomy,Neuro Anatomy, Gross Anatomy including applied anatomy of the Head, Neck, Brain & Upper Limb

[Paper - I]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions. Draw diagrams to illustrate your answers.

1. Classify bones on the basis of their shape giving example. Describe the blood supply of a long bone. [10]

2. Describe the features, blood supply and nerve supply of lateral wall of nasal cavity. [15]

3. Describe the origin, course distribution and applied anatomy of Glossopharyngeal nerve. [15]

4. Describe axillary artery. Add a not eon Scapular anastomosis. [15]

5. Describe interrossei muscles of hand. [15]

6. Describe the blood supply of Supero-lateral surface of cerebral hemisphere with special reference to functional areas. [10]

7. Draw a labeled diagram to show the various nuclei and tracts in lower part of PONS. [10]

8. **Write short notes on:** [10]
   a. Lateral horn of spinal cord.
   b. Horner's syndrome.

M.Sc. [Medical Anatomy]

BE/2008/11

General Embryology, Gross Anatomy including anatomy of Abdomen, Thorax and Lower limb

[Paper - II]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions.

1. **Enumerate the following:** [5x4=20]
   a. Components of placental barrier in early and late pregnancy.
   b. Branches of Popliteal artery.
   c. Structures in the superior mediastinum.
   d. Sites of portocaval anastomosis and vessels involved.
   e. Derivatives of mesoderm.

2. **Draw labeled diagram and show:** [4x5=20]
   a. Relations of Visceral surface of liver.
   b. T.S. of thorax at the level of T_3 vertebra.
   c. Branches of typical intercostal nerve.
   d. Cutaneous nerve supply of dorsum of foot.

3. **Describe Knee joint under following headings:** [15]
   a. Ligaments.
   b. Relations.
   c. Movements and muscles causing them.
   d. Nerve supply.

4. **Write short notes on:** [3x5=15]
   a. Spermatogenesis.
   b. Femoral hernia.
   c. Coronary sinus.

5. **Write briefly on:** [3x5=15]
   a. Levator ani muscle.
   b. Medial longitudinal arch.
   c. Inguinal canal.

6. **Describe the Uterus under following headings:** [15]
   a. Supports.
   b. Relations.
   c. Blood supply & lymphatic drainage.

M.Sc. [Medical Anatomy]

BF/2008/11

Microscopic Anatomy and Regional(systemic) embryology

[Paper - III]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions. Illustrate your answers with suitable diagrams.

1. **Enumerate**: [4x5=20]
   a. Sensory receptors of the body.
   b. Derivatives of second pharyngeal arch.
   c. Hormones secreted by Placenta.
   d. Cells of large intestine.

2. **Draw labeled diagrams to show:** [4x5=20]
   a. Development of arterial arches.
   b. Development of Tongue.
   c. *Microscopic structure of*:
      i) Fundus of stomach.
      ii) Liver.

3. Describe the development of Ovary. Add a note on its microscopic anatomy and developmental anomalies. [10+5=15]

4. **Write short notes on:** [3x5=15]
   a. Microscopic anatomy of Cerebellum.
   b. Development of Thyroid gland.
   c. Implantation.

5. Discuss rotation of Gut during development. Write in brief about associated anomalies related to the Gut. [10+5=15]

6. **Write short notes on:** [3x5=15]
   a. Development of Cerebellum.
   b. Histological features of rods and cones cells of retina.
   c. Coarctation of Aorta.

M.Sc. [Medical Anatomy]

BF/2008/11

Physical Anthropology, Medical statistics, Medical Genetics and Recent advances in Anatomy

[Paper - IV]

M.M. : 100 **Time : 3 Hours**

Note : Attempt all questions.

1. a. Describe in detail Femoral Canal and Femoral Hernia. [10]
   b. Factors responsible for Erect posture. [10]

2. Explain in detail indications and techniques for Prenatal diagnosis. [20]

3. a. Describe different shapes & diameter of Human Pelvis. [10]
   b. Diaphragms of Body. [10]

4. **Write short notes on:** [40]
   a. Tumor suppressor genes.
   b. Notochord.
   c. Movements of Respiration.
   d. Carpal Tunnel Syndrome.
