

## MEDICAL SCIENCE (Paper I)

**Time Allowed : Three Hours**

**Maximum Marks : 300**

### QUESTION PAPER SPECIFIC INSTRUCTIONS

*(Please read each of the following instructions carefully before attempting questions)*

There are EIGHT questions divided in two Sections.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each Section.

The number of marks carried by a question/part is indicated against it.

Wherever any assumptions are made for answering a question, they must be clearly indicated.

Word limit in questions, wherever specified, should be adhered to.

### SECTION 'A'

1. Answer any five of the following:
  - (a) Explain the origin and course of Facial Nerve. Describe its functional components and distribution. What is Bell's palsy and give the anatomical reasons for the presenting signs? 12
  - (b) Describe the blood supply and lymphatic drainage of stomach. Add a note on the applied anatomy of both. 12
  - (c) Define sleep. Write briefly on architecture of a sleep cycle. What are the variations in it with age? 12
  - (d) Write the steps in lactation. What are the advantages of breast feeding? 12
  - (e) How are deletions in 'gene causing diseases' detected? Explain in terms of Duchenne Muscular Dystrophy (DMD). 12
  - (f) Chronic renal failure leads to Osteodystrophy. Outline the chain of events. 12
2.
  - (a) Describe the ventricles of brain. Add a note on the circulation of CSF. Mention the usual site of collection of CSF and state the anatomical reason for selecting this site. 20
  - (b) Describe the development of heart chambers. Mention the common congenital anomalies and explain the developmental reasons for them. 20
  - (c) Describe the gross anatomical features and relations of kidney. Explain its arterial supply and vascular segments. Add a note on the development of kidney. 20
3.
  - (a) What is the role of ADH in maintaining the plasma osmolarity and volume? What will happen in its deficiency? 20
  - (b) Write the morphology of red blood corpuscles. List the factors required for their formation and mention how the shape is advantageous. 20
  - (c) Enumerate the functions of cardiovascular system. What will happen if valves would not have been there? 20
4.
  - (a) Substantiate the following statement: "Deficiency of a trace element leads to diminished glucose tolerance." 20
  - (b) The use of oral contraceptives appears to increase the requirement of a vitamin. Which vitamin is involved? Explain why. How is this identified clinically? 20
  - (c) Explain: (i) Non-standard amino acids and their biological functions. (ii) Importance of enzyme assay to assess liver function. 20

## SECTION 'B'

5. Attempt any five of the following:
- (a) Discuss the role of FNAC and biopsy in the diagnosis of neoplasms of Breast. Briefly mention the different histopathological types of breast carcinoma. 12
  - (b) What are the predisposing factors in the etiology of oral cancer? Briefly describe the malignant lesions that are likely to affect the oral cavity. 12
  - (c) Name the SHIGELLA species causing diseases in man. Describe the pathogenesis of Bacillary dysentery. What are the laboratory procedures in the diagnosis of Bacillary dysentery? Mention how laboratory findings in Bacillary dysentery are different from those of Amoebic dysentery. 12
  - (d) Discuss the mechanism of action of the following drugs: (i) Rosiglitazone (ii) Chloroquine (iii) Cyclosporin (iv) Lovostatin 12
  - (e) Write about the clinical status (use) of the following drugs: (i) Tamoxifen (ii) Cis-platinum (iii) Griseofulvin (iv) Chloramphenicol 12
  - (f) Enumerate the various types of injuries. Describe the injuries produced by a sharp weapon. 12
6. (a) Define Cirrhosis of Liver. Classify the different cirrhotic conditions of the liver. Discuss the etiopathogenesis and pathology of primary biliary cirrhosis. 15
- (b) What are the possible contributing factors in the genesis of Bronchogenic Carcinoma? Briefly describe the pathologic features of the different carcinomas of the bronchus. What are the problems in early diagnosis of this disease? 15
- (c) What are Immunoglobulins? Classify Immunoglobulins. Describe their role in host defence against communicable diseases. What are the modes by which immunoglobulins act on antigens? 15
- (d) What is the etiology of Epidemic Meningitis? Describe the laboratory methods in the diagnosis of Epidemic meningitis. Compare the laboratory findings with those of Aseptic meningitis. 15
7. Write about the differences between the following drugs: 15×4=60
- (a) Aspirin and Paracetamol
  - (b) Nitroglycerin and Verapamil
  - (c) Prazosin and Atenolol
  - (d) Captopril and Losartan
8. (a) Describe the mechanism of injuries sustained by a pedestrian on being hit by a four-wheeler. 20
- (b) How will you plan to collect and preserve the samples for DNA profiling and other tests in a case of mass disaster having mutilated and dismembered bodies? 20
- (c) Describe the signs, symptoms and treatment of acute parathion poisoning. 20