

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)

Question No. 1 is compulsory.

Candidate has to attempt FIVE questions in all, selecting the remaining questions from the Sections that follow, as directed in the paper.

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 three of the following (each in about 200 words):
- (a) Answer any three of the following (each in about 200 words): (i) Explain why cyanosis does not occur in histotoxic hypoxia. (ii) Explain briefly how drinking large amounts of plain water leads to an increase in urinary output. (iii) Explain why cardiac muscle cannot be tetanized. (iv) Enumerate the advantages of saltatory conduction 20
 - (b) Discuss the morphology and manifestations of carcinoid tumour. 20
 - (c) Discuss pathogenesis and lab diagnosis of Amoebic liver abscess. 20
 - (d) Write a note on drug management of Asthma. 20
 - (e) Describe, with the aid of diagram, the metabolic changes in a case of uncontrolled diabetes mellitus. Mention the various biochemical investigations for the diagnosis and follow-up of a diabetic patient. 20
 - (f) Name the different cranial nerves. Describe the anatomy of autonomic nervous system with special reference to Gastro-intestinal Tract. 20
2. (a) Why are the trace elements called so? Enumerate the various trace elements required in human nutrition and mention their biochemical role. 20
- (b) Define GFR, giving its normal value. Describe the forces determining GFR. Describe the determination of GFR based on renal clearance method 20
- (c) Write short notes on: (i) Human placenta (ii) Draw and label a diagram of cross section of thorax through the angle of Louis. 20
3. (a) Briefly describe the salient features of eukaryotic DNA. What is "Recombinant DNA"? In your opinion, how does the recombinant DNA technology find practical application in biology and medicine? 20
- (b) Define ECG. Describe the common leads used to record ECG. Describe a normal ECG with the help of a labelled diagram. 20
- (c) Write notes on: (i) Arterial supply to head and neck of femur (ii) Descent of testis 20

SECTION 'B'

4. (a) Classify glomerulonephritis. Give etiopathogenesis and pathology of kidney in rapidly progressive glomerulonephritis. 30
- (b) Discuss etiology, epidemiology and pathogenesis of bacterial food poisoning. 30
5. (a) Define a granuloma. Discuss the causes and pathogenesis of granulomatous inflammation. 30

- (b) Enumerate the causes of patches in throat. How will you proceed to establish the diagnosis? 30

SECTION 'C'

6. (a) Give mechanism of action, therapeutic uses and adverse effects of Methotrexate. 20
- (b) What are the indications, contraindications and adverse reactions of Furosemide? 20
- (c) Discuss the mechanism of antimalarial action, therapeutic uses and adverse effects of Chloroquine. 20
7. (a) Write medico-legal significance of DNA fingerprinting. 20
- (b) Define 'Rape'. What are the medical findings you may get in an alleged victim aged 10 years? 20