

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'

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| 1. | (a) | Describe the nerve supply of tongue correlating it with its development. Add a note on its Blood supply and lymphatic drainage along with applied anatomy. | 10 |
| | (b) | Define porto caval anastomosis. What are their sites? Write also the anastomosing vessels on each site with its applied anatomy. | 10 |
| | (c) | Define Jaundice. Write briefly about formation and fate of bilirubin. Give the major differences between the three types of Jaundice. | 10 |
| | (d) | Define Blood Pressure. Enumerate the various factors affecting the blood pressure. How is the blood pressure regulated in the long term? | 10 |
| | (e) | Give the role of a micronutrient as a component of 'glucose tolerance factor'. What is its RDA and deficiency manifestation? | 10 |
| | (f) | What are the tests based on the intermediary metabolic functions of liver? Explain the basis of each of these tests. | 10 |
| 2. | (a) | Describe venous drainage of lower limb and its applied anatomy. | 15 |
| | (b) | Discuss relations and supports of uterus. Add a note on its applied anatomy. | 15 |
| | (c) | Describe Carpal tunnel syndrome, its manifestations and the causes. | 15 |
| | (d) | Name the contractile proteins in skeletal muscle. What is the electron microscopic appearance of muscle? Write sequence of events in muscular contraction. | 15 |
| 3. | (a) | Discuss in short the structure and sequence of events at neuromuscular junction during nerve impulse transmission. Add a note on myasthenia gravis. | 20 |
| | (b) | What are the growth curves of various body organs after birth? Enumerate the various factors affecting growth. Discuss briefly clinical abnormalities related to growth. | 20 |
| | (c) | Write about the tests which indicate that the female is ovulating. | 20 |
| 4. | (a) | Explain the effect of anticonvulsant drugs (Phenobarbital/diphenylhydantoin) on the vitamin requirements in the body. State the role that the relevant vitamin/vitamins play(s) in the human body. | 20 |
| | (b) | Outline the components of the translation apparatus in eukaryotes. | 20 |
| | (c) | What could be the nutritional deficiencies encountered in an 'Alcoholic' person? Explain the reasons clearly. | 20 |

SECTION 'B'

5. (a) Enumerate the various etiological agents causing neoplasia. Discuss the mechanism of viral carcinogenesis. 12
- (b) What is the mechanism involved in Type I hypersensitivity reaction? What types of agents can induce it? Describe the laboratory evaluation and management of allergic reactions. 12
- (c) Classify antimalarial drugs. Discuss the common side effects of chloroquine administration. What are the other therapeutic uses of chloroquine? 12
- (d) A 50-year male has been found hanged in a bath-room along with incised wound on wrist, groin and cubital region. How will you establish cause of death and opine whether he has expired of hanging or injuries sustained? 12
- (e) What is the role of genetic marker in diagnosis of Chronic Myeloid Leukemia (CML)? Give clinical features and blood picture of CML. 12
6. (a) Enumerate the important parasitic and fungal opportunistic infections which can occur during the course of HIV infection. Discuss the current strategies of HIV testing and to monitor the progress of HIV infection. Write briefly the recommended treatment. 20
- (b) A 55 year old male with prior history of diabetes mellitus presented to emergency with nausea, vomiting, abdominal pain, dehydration and altered sensorium. On examination, his random blood sugar was 350 mg%, with ketonuria and low bicarbonate level. (a) Outline the treatment of this patient. (b) Outline longterm treatment of this patient. (c) Discuss the brief rationality of the proposed treatment schedule. (d) What precautions should be taken by the patient while on long term treatment? 20
- (c) Define nephrotic syndrome. Give the various causes of nephrotic syndrome. Give the microscopic and E/M (Electron Microscopy) picture in a case of Membranous glomerulonephritis. 20
7. (a) Write briefly on pathogenesis and laboratory diagnosis of meningococcal meningitis. 20
- (b) Classify antihypertensive drugs. Mention the mechanism of action and side-effects of Angiotensin-converting enzyme inhibitors (ACEI). Mention the advantages of Angiotensin Receptor antagonists. 20
- (c) What is intraepithelial neoplasia (carcinoma in situ)? Give the pathology of carcinoma cervix. How can you make an early diagnosis of carcinoma cervix? 20
8. (a) A married woman was found dead with 100% burns on the body in her house. How will you establish on post-mortem examination that whether burns are ante-mortem or post-mortem in nature? 20
- (b) Enumerate the clauses of Grievous hurt, with an example for each clause. 20
- (c) Enumerate 7 (Seven) common insecticides used in India. Describe the symptoms, signs, treatment and post-mortem findings in a case of Aluminium phosphide poisoning. 20