

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. Attempt any THREE of the following in not more than 200 words each:
 - (a) Describe broncho-pulmonary segments of lungs. Mention their clinical importance. 20
 - (b) Describe the development of Kidney. Mention the anomalies associated with it. 20
 - (c) What are the different mechanisms for regulation of body temperature? Why in summer, when humidity of air increases the person feels more uncomfortable? 20
 - (d) Explain the biochemical role of vitamins in the prevention of megaloblastic anaemia. State their dietary sources. 20
2.
 - (a) Trace the pathway of pain and thermal sensations with the help of a diagram. 20
 - (b) What are the general features of parasympathetic division of autonomic nervous system. Why is it known as 'anabolic division'? 20
 - (c) Describe the formation of placenta and its anomalies. State the functions of the placenta. 20
3.
 - (a) What is the normal percentage of reticulocytes in blood? Mention the conditions in which reticulocyte count increases, giving reasons. 20
 - (b) Enumerate the hormones secreted by thyroid gland. What is the mechanism of thyroid enlargement in iodine deficiency in diet? 20
 - (c) What changes take place in the ovary, uterus, vagina and breast during a menstrual cycle? 20
4.
 - (a) State the salient features of human DNA. Outline the steps involved in the synthesis of eukaryotic DNA. Mention the major goals of human genome project. 20
 - (b) What is cardiac output? What are the factors affecting it? 20
 - (c) Explain with the aid of flow chart, how metabolic pathways are integrated in starvation. 20

SECTION 'B'

5. Attempt any THREE of the following in not more than 200 words each:
 - (a) Describe aetiopathology of hepatic cirrhosis. 20
 - (b) What are 'OPPORTUNISTIC INFECTIONS'? Discuss the role of AIDS in the emergence of opportunistic infections. Briefly describe the genesis and spread of "Multi-Drug-Resistance" (MDR) tuberculosis in India. 20
 - (c) Describe in short the significance of drug metabolizing enzymes. Mention the consequences of microsomal enzyme induction. 20

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| | (d) | Enumerate the tests performed for examination of suspected seminal stains. Describe confirmatory tests for seminal stains. | 20 |
| 6. | (a) | What are precancerous disorders? Describe precancerous disorders of the gastrointestinal tract in short. | 20 |
| | (b) | Discuss the aetiopathogenesis of infective diarrhoeas in children. What are bacterial Resistance transfer factors (RTFs) and their role in the prevalence of infective diarrhoeas. | 20 |
| | (c) | Discuss the genesis of two important immune-complex diseases. What serological tests will help to determine the prognosis of the illness? | 20 |
| 7. | (a) | Discuss the therapeutic uses of β -receptor blocking agents. Mention the advantages of cardio-selective β -blockers over non-selective blockers. | 20 |
| | (b) | Classify benzodiazepines according to their prominent use. Discuss the therapeutic uses and adverse effects of diazepam. | 20 |
| | (c) | Discuss the antibacterial spectrum, therapeutic uses and adverse effects of Ciprofloxacin. | 20 |
| 8. | (a) | Classify the degrees of burn injuries. Describe the postmortem findings in a case of immediate death due to 100% burns by flame. | 20 |
| | (b) | Classify the 'Organophosphorus compounds'. Describe the signs, symptoms, diagnosis and management of acute malathion poisoning. | 20 |
| | (c) | Describe the features of the entry wound by a bullet fired, from a rifle. Mention the differentiating features of an entry and exit wound caused by a rifled firearm. | 20 |