

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:
 - (a) Write gross anatomy of uterus. Add notes on supports of uterus, its histological structure and development. 20
 - (b) Describe course, relations and distribution of ulnar nerve in hand. Add a note on its applied anatomy. 20
 - (c) Describe the sequence of events in neuromuscular transmission. What happens in myasthenia gravis? 20
 - (d) A famous experiment was carried out by two scientists, Alfred Hershey and Martha Chase in 1952, which has shown that DNA is the chemical bearing the Genetics information in living cells. Briefly describe that Hershey Chase experiment. 20
2.
 - (a) Discuss gross and applied anatomy of Knee Joint. 20
 - (b) Which sensations are carried by Dorsal columns of spinal cord? What changes occur in their lesion? 20
 - (c) Describe visual pathway. Discuss various visual impairments involving visual pathway at different levels. 20
3.
 - (a) List the hormones secreted by placenta and their functions. What is the physiological basis of early immunological test for pregnancy. 20
 - (b) Explain the physiological basis of various signs and symptoms of Diabetes mellitus. 20
 - (c) List the various types of cells found in blood and the precursor cell, function and normal values of each. 20
4.
 - (a) Describe the reactions that constitute the Tricarboxylic Acid Cycle (TCA-Cycle). Indicate the energy yield per each cycle. 20
 - (b) Describe the explain the ventilatory changes in acid base balance. 20
 - (c) In terms of biochemistry and molecular biology, discuss the characteristic features of 'Living Organisms.' 20

SECTION 'B'

5. Attempt any three of the following:
 - (a) Describe the salient gross and microscopic features in Tuberculous meningitis. 20

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| | (b) | Define sterilization and disinfection. Classify sterilization methods. Describe the sterilization and disinfection methods to be adopted in a District General Hospital having all the major clinical departments including the critical care units. | 20 |
| | (c) | Critically review the various routes of administration of drug. | 20 |
| | (d) | What is 'disputed paternity'? Describe how you will solve such a problem by examination of blood. | 20 |
| 6. | (a) | Discuss the aetiology and pathology of membranous glomerulonephritis. | 20 |
| | (b) | Discuss the causes and pathology of drug-induced hepatitis. | 20 |
| | (c) | What are Nosocomial infections? Classify staphylococcal infections with examples. Explain MRSA, VISA & VRE and the significance of these in hospitals. | 20 |
| 7. | (a) | Name the alkaloids of opium. Mention actions, therapeutic uses and contraindications of opioid analgesics. | 20 |
| | (b) | Discuss about the pharmacological actions, therapeutic uses and side effects of Diazepam, Metronidazole and Rifampin. | 20 |
| | (c) | What is aminoglycoside antibiotics? Write about the pharmacological actions, resistance, pharmacokinetics, uses and adverse effects of streptomycin. | 20 |
| 8. | (a) | Define 'dry drowning'. Describe postmortem findings in a case of drowning in fresh water. | 20 |
| | (b) | Describe the signs, symptoms and treatment of acute barbiturate poisoning. | 20 |
| | (c) | Describe how you will differentiate between antemortem and postmortem injuries on postmortem examination. | 20 |