

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 about 200 words for each:
 - (a) Describe microscopic anatomy and fine structure of NEPHRON. Add a note on its applied anatomy. 20
 - (b) Discuss boundaries and contents of superficial and deep perineal spaces (pouches). Add a note on their applied Anatomy. 20
 - (c) What is the role of middle ear in hearing? Why there is need for two ears. 20
 - (d) The DNA is the bearer of hereditary information was demonstrated long time back by scientists Avery Macleod and McCarty. Describe briefly how did they do it. 20
2.
 - (a) Write in brief anatomy of RIGHT ATRIUM. Discuss errors in development leading to various congenital malformations of heart. 20
 - (b) How sympathetic stimulation prepares the person for flight and fight reaction? 20
 - (c) Describe functional components, origin, course and distribution of THIRD CRANIAL nerve. 20
3.
 - (a) List anterior pituitary hormones and their main actions in brief. What will happen in the deficiency of growth hormone? 20
 - (b) What are the steps of homeostasis? Why blood clotting is abnormal in patients with Vitamin K deficiency? 20
 - (c) What is Puberty? Summarise the changes that occur at Puberty in females. 20
4.
 - (a) As per the latest knowledge of the Biochemistry, how do you define a 'Gene'? Discuss the changes that have taken place in this definition over the years. 20
 - (b) Describe and explain the ventilatory changes in acid-base balance. 20
 - (c) It is said that fatty deposits in the body represent concentrated storage forms of energy. From your knowledge of metabolic pathways, explain and substantiate the above statement. 20

SECTION 'B'

5. Answer any three of the following in about 200 words for each:
 - (a) What is the current histopathological classification and grading system applied in meningiomas? 20

- (b) Define and classify bacterial food poisoning; give examples. Describe in detail the method of investigating a suspected outbreak of food poisoning in a school having mid-day meal programme to find the cause and source. 20
- (c) What is drug? How are they absorbed and distributed in the body? Describe the factors that modify the absorption of drug. 20
- (d) What are the parts of 'Medicolegal report'? Describe how will you examine and prepare a medicolegal report of an injured person. 20
6. (a) Discuss the histopathological features that play a role in the prognosis of breast carcinomas. 20
- (b) Name the STD's and their causative agents. Describe the various modes of spread of HIV. Describe the functions of VCTC and PPTCT programme. 20
- (c) Classify fungi morphologically. Name the opportunistic fungi and the organ commonly affected by them. Write the general approach to the Lab diagnosis of fungal infections. 20
7. (a) Classify barbiturates according to their onset and duration of action. Discuss about their pharmacological actions, uses and side affects. 20
- (b) Give an account of mechanism of action, therapeutic uses and side affects of antifungal drugs with special reference to griseofulvin ointment. 20
- (c) Critically discuss about the pharmacological actions, uses and side affects of Ibuprofen, Frusemide and Chloroquine. 20
8. (a) Enumerate the various screening tests for blood stains. Describe the tests to establish the blood group of the blood stain. 20
- (b) Describe the procedures of medical examination and methods of preserve trace evidences to detect semen as a proof of sexual offence of a 18 year's old female. 20
- (c) Describe how will you differentiate between suicidal and homicidal injuries on medical examination. 20