

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. Answer any five of the following questions in not more than 200 words each:
 - (a) Describe the microscopic anatomy of testis. Add a note on spermatogenesis. 12
 - (b) Describe structure and functions of placenta at term. 12
 - (c) What is plantar reflex? How it is elicited? Describe its nerve supply and importance. 12
 - (d) What is nerve-supply of carotid sinus? What are the functions of carotid sinus? 12
 - (e) Enumerate with suitable examples the mechanisms involved in conversion of a substrate to its products through an enzymatic reaction. 12
 - (f) Schematically depict the integration of the metabolic activities in liver and muscle in regulation of blood glucose after 72 hours of starvation. 12
2.
 - (a) Describe the formation of inguinal canal. Add a note on inguinal hernias. 30
 - (b) Describe the course and distribution of mandibular branch of fifth cranial nerve. 30
3.
 - (a) What is the mechanism, sites of actions and of origin of insulin? What other hormones balance it in human body and how? 20
 - (b) What are the main factors which maintain and regulate venous return? 20
 - (c) What are the factors which increase oxygen supply to more active tissues? 20
4.
 - (a) Sequence the events contributing to the regulation of plasma cholesterol levels as a consequence of receptor mediated uptake of LDL by hepatic and extra-hepatic tissues. 30
 - (b) What is ketoacidosis? How will you differentiate between metabolic acidosis and respiratory acidosis? 30

SECTION 'B'

5. Answer any five of the following questions in about 200 words each:
 - (a) Explain the terms metaplasia, anaplasia, dysplasia, hyperplasia and hypoplasia with suitable examples. 12
 - (b) What are the complications and sequelae of streptococcal sore throat? Discuss its treatment. 12
 - (c) Discuss the role of biologic agents in the etiopathogenesis of neoplasia. 12
 - (d) Give indications, contraindications and side effects of rifampin. 12
 - (e) Discuss the mechanism of action, therapeutic uses and adverse effects of methotrexate. 12

- (f) How will you use the blood grouping system in case of disputed paternity? 12

SECTION 'C'

6. (a) Define cirrhosis of liver. Classify cirrhotic conditions of liver. Discuss the etiopathogenesis and pathology of primary biliary cirrhosis. 30
- (b) Discuss the etiopathogenesis and pathological lesions of rheumatic fever. 30
7. (a) How will you determine whether the incised wound is ante mortem or post mortem? 20
- (b) Enumerate various physical and chemical tests to confirm the presence of semen in a given sample. 20
- (c) Discuss the various methods for control of rabies in India. 20
8. (a) Classify non-narcotic analgesics. 20
- (b) Discuss the mechanism of action, dosage and toxicity of doxycycline. 20
- (c) Describe the mechanism of action, dosage and adverse reactions of dapsone. 20