

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 questions:
 - (a) Describe pelvic diaphragm, write in brief about its applied anatomy. 20
 - (b) Draw a schematic labelled diagram of a transverse section of thorax passing through the sternal angle. Also enumerate branches of thoracic aorta. 20
 - (c) What are the hormones which regulate growth and development of human body during adolescence? How development is regulated by them? 20
 - (d) Describe the mechanism of mineralization of bone. Enumerate the clinical features of deficiency of the factor responsible for mineralization. 20
2.
 - (a) Give an outline of anatomy of facial nerve mentioning its clinical significance. 20
 - (b) Describe in short the normal and anomalous development of urinary bladder. 20
 - (c) Describe neuronal pathways and reflexes which maintain balance and posture of human body. 20
3.
 - (a) Describe the normal development and differentiation of haematopoietic cells. 20
 - (b) What are the properties and functions of pulmonary surfactants. Discuss the pulmonary function tests. 20
 - (c) Describe the endocrine functions of hypothalamus. Enumerate the clinical features of Acromegaly. 20
4.
 - (a) Discuss the physiology of normal sleep. 20
 - (b) Describe the control and regulation of normal homeostasis. 20
 - (c) What is Henderson-Hasselbach equation? How is the acid base balance maintained in the body? 20

SECTION 'B'

5. Attempt any three of the following questions:
 - (a) Discuss the type and mechanism of Ischemic cell injury. 20
 - (b) Discuss the pathophysiology and laboratory diagnosis of Cholera. How does classical vibrio cholerae differ from Eltor vibrio? 20
 - (c) Describe the mechanism of action of Retro-viral drugs in different stages of HIV replication. What are their toxicities? 20

	(d)	Describe the role of DNA Profiling in Forensic medicine.	20
6.	(a)	Discuss the colorectal carcinogenesis.	20
	(b)	Give the morphological changes and complications in myocardial infarction.	20
	(c)	What is hydatid disease? Describe the etiopathogenesis, pathological lesions and laboratory diagnosis of echinococcus.	20
7.	(a)	What are newer quinolones? Describe their mechanism of action and development of resistance to them. What are the advantages of newer quinolones over the older quinolones?	20
	(b)	What drugs are used in resistant staphylococcal infection? Discuss the mode of action and toxicity of cefpirome.	20
	(c)	Enumerate anti platelets drugs. Describe their mechanism of action and their toxicity.	20
8.	(a)	Describe the features of contact wound by a rifled firearm. How will you differentiate entry and exit wound in a distant fire.	20
	(b)	Classify the organophosphorous compounds. Describe the signs, symptoms and management of acute organophosphorus poisoning.	20
	(c)	Describe how will you differentiate between homicidal and suicidal injuries.	20