

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'

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| 1. | (a) | Describe the morphological features of full term placenta. Name any five congenital malformations of placenta. | 12 |
| | (b) | Tabulate the extrinsic and intrinsic muscles of eyeball along with their nerve supply and action(s). | 12 |
| | (c) | Define reflex. Classify them with examples and their significance in daily life. | 12 |
| | (d) | Why pancreas is called a dual gland? What is the mechanism of hyperphagia in insulin deficiency? How will you differentiate between hypoglycemic coma and hyperglycemic coma? | 12 |
| | (e) | Write a note on post translational modifications of protein. | 12 |
| 2. | (a) | Describe the shoulder joint under the following headings: (i) Type of joint (Classification of joint) (ii) Movements occurring at this joint (iii) List main ligaments (iv) Name the muscles acting at this joint (Do not describe each muscle) (v) Applied anatomy of dislocation of shoulder joint (vi) What is meant by the term "frozen shoulder"? | 30 |
| | (b) | Describe the origin, course and function(s) of corticospinal tracts. Add a note on effect(s) of damage to these tracts and the resulting paralysis. | 30 |
| 3. | (a) | Discuss briefly the role of different hormones in lactation. Why there is amenorrhoea during lactation and what is its importance? | 20 |
| | (b) | List the various types of cells found in the blood and their functions. What will happen due to deficiency of each type? | 20 |
| | (c) | What are the effects of exercise on cardiovascular system? What is the importance of exercise in maintaining the health of CVS? | 20 |
| 4. | (a) | Describe the role of vitamins in prevention of Anaemia. | 20 |
| | (b) | Nodular growth in neck is very common among population living in mountain areas. – Why? How will you investigate such cases? | 20 |
| | (c) | Write in brief about: (i) Real time PCR (ii) Hepcidin (iii) VNTR (iv) Tag Polymerase | 20 |

SECTION 'B'

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| 5. | (a) | Define granuloma. Give the mechanism of formation of granuloma and give examples of granulomatous diseases. | 12 |
| | (b) | Discuss cell-mediated immunity. | 12 |

	(c)	Explain why: (i) Clonidine is not preferred as antihypertensive in patients of coronary heart disease. (ii) Amiloride is a good choice as diuretic than thiazides in digitalised patient. (iii) Prolonged therapy with ketoconazole produces endocrine adverse reactions. (iv) Racemic mixture of dobutamine is used to treat acute congestive heart failure.	12
	(d)	How will you solve the problem of interchange of newborn babies in a Hospital?	12
	(e)	Give the incidence, pathogenesis gross and microscopic features of Rheumatic heart disease.	12
6.	(a)	Give the etiopathogenesis and gross and microscopic features of acute osteomyelitis.	20
	(b)	Give the FAB classification of acute myeloid leukaemia and discuss the laboratory findings in a case of M ₃ AML.	20
	(c)(i)	Discuss laboratory diagnosis of AIDS.	10
	(c)(ii)	Discuss pathogenesis and laboratory diagnosis of extraintestinal amoebiasis.	10
7.	(a)	Discuss pathogenesis and laboratory diagnosis of cryptococcosis.	20
	(b)	Classify immunosuppressive drugs. Describe in brief the mechanism of action and side effects of cyclosporine. Mention the advantage of serolimus as immunosuppressant.	20
	(c)	How will you differentiate between benign and malignant tumours?	20
8.	(a)	Describe the structure of a cartridge of a smooth barrel shotgun and its mechanism of fire.	20
	(b)	Describe the signs, symptoms and management of chronic lead poisoning.	20
	(c)	How will you establish on medical examination and examination of trace evidences that alleged virgin woman of 15 years was sexually assaulted by an adult male?	20