

**CSM—50/22**  
**MEDICAL SCIENCE**  
**PAPER—I**

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this margin.

**Time : 3 Hours**

**Full Marks : 250**

*The figures in the right-hand margin indicate marks.*  
*Candidates should attempt **any 10 (ten)** questions of **GROUP—A** with word limit of 250 words and should attempt **any 5 (five)** questions from **GROUP—B** with word limit of 300 words.*

**GROUP—A**

1. Discuss various types of back pain with reference to anatomy of back. 15
2. Describe the development of neutrophil. What are primary or azurophil granules and what are their roles? 10+5=15
3. What is electrophysiological basis of generation of electrocardiogram? What are various depolarization and repolarization waves in ECG? 10+5=15
4. Discuss the anatomy of pituitary gland. Enumerate the hormones secreted by anterior pituitary gland. 10+5=15
5. Discuss the role of aminotransferase in assessing liver injury. Does AST : ALT ratio help in interpretation of LFT? 10+5=15
6. Discuss iodine uptake in thyroid gland. How are T3 and T4 hormones formed? 7+8=15
7. Discuss pathophysiology of ST-elevation myocardial infarction. What is the role of acute plaque rupture? 10+5=15
8. Describe current pathological classification and characteristics of neoplasm of lung. Write a note about its relationship with smoking. 10+5=15
9. What is the clinical importance of CD4 cell count in HIV patient? In what conditions, CD4 cell count may be misleading? 10+5=15

10. Discuss the pathogenesis of dengue fever. How could it be diagnosed by the laboratory tests? 10+5=15
11. Discuss general principles of poisoning and drug overdose management. 15
12. Describe the mechanism of action of SGLT II inhibitors. Discuss their benefits and limitations. 7+8=15

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**GROUP—B**

13. How is pain perceived? Discuss the anatomy of pain pathways. What is pain modulation and how is it achieved? 5+10+5=20
14. Discuss the phenotypic characteristics of malignant cells. 20
15. What do you mean by pharmacokinetics and pharmacodynamics of a drug? What are first-pass effect and bioavailability of a drug? 10+10=20
16. Discuss the pathogenesis of lupus nephritis. How do you classify lupus nephritis? Write about important histopathological features of each class. 5+10+5=20
17. Discuss epidemiology and ecology of aspergillosis. What are the risk factors for acquiring aspergillosis? 10+10=20
18. What are cytokines? What are their roles in immunity? How do they act? 5+10+5=20

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