

2024**M.Sc.****4thSemester Examination****CHEMISTRY****PAPER – CEM-404 (Inorganic Special)****Full Marks : 50****Time : 2 Hours****(CEM 404-Chemistry in Technology)****Group A**Answer any **four** bits:

2×4 = 8

1. What are the toxic effects of BPA?
2. Why drug-protein interaction study is necessary?
3. What kinds of information are obtained from circular dichroism spectral study during drug-DNA interaction?
4. How azide ion affects the carbonic anhydrase enzyme activity?
5. Cite one examples of fibrous and globular protein.
6. What is meant by polarized light?

Group BAnswer any **four** bits:

4×4 = 16

7. Discuss the working principle of circular dichroism spectroscopy.
8. What is meant by toxicology? How do toxic chemicals affect enzyme activity? Give examples. 2+2
9. How fluorescence spectrophotometric study helps to understand the protein-drug interaction.
10. What is “Interaction volume”? How secondary electrons are generated? 2+2
11. Discuss the basic principle of SEM. Draw the flow diagram of the instrument.
12. (i) How protein is developed from DNA? (ii) How optical microscope differs from electron microscope? 2+2

Group C

Answer any *two* bits:

8x2=16

13. Discuss the 'As' and 'Hg' toxicity with respect to source, toxic mechanism, kinetics, and symptoms. 2+2+2+2
14. (i) Write the toxic effect of acrylamide. (ii) Write a note of drug-DNA interaction via UV absorption techniques. (iii) Give examples of intercalator binder and groove binder for DNA. 3+3+2
15. (i) How 'Cd' toxicity affect the respiratory system? (ii) Write the working principle of AFM. (iii) Why vacuum is necessary in case of electron microscope? 2+4+2
16. (i) What do you mean by 'charging' in electronic microscopy? (ii) How can you prevent this charging effect? (iii) How electron gun is made? 2+2+4
-

Internal Assessment-10

Total Pages -02

PKC/PG/IVS/CEM-404/24

2024

M.Sc.

4thSemester Examination

CHEMISTRY

PAPER – CEM-404 (Inorganic Special)

Full Marks : 50

Time : 2 Hours

(CEM 404-Chemistry in Technology)

Group A

Answer any *four* bits:

2×4 = 8

1. What are the toxic effects of BPA?
2. Why drug-protein interaction study is necessary?
3. What kinds of information are obtained from circular dichroism spectral study during drug-DNA interaction?
4. How azide ion affects the carbonic anhydrase enzyme activity?
5. Cite one examples of fibrous and globular protein.
6. What is meant by polarized light?

Group B

Answer any *four* bits:

4×4 = 16

7. Discuss the working principle of circular dichroism spectroscopy.
8. What is meant by toxicology? How do toxic chemicals affect enzyme activity? Give examples. 2+2
9. How fluorescence spectrophotometric study helps to understand the protein-drug interaction.
10. What is "Interaction volume"? How secondary electrons are generated? 2+2
11. Discuss the basic principle of SEM. Draw the flow diagram of the instrument.
12. (i) How protein is developed from DNA? (ii) How optical microscope differs from electron microscope? 2+2