2023

M.Sc.

4th Semester Examination

CHEMISTRY

PAPER – CEM-404 (Inorganic Special)

Full Marks : 50

Time : 2 Hours

(CEM 404-Chemistry in Technology)

1. Answer any ***four*** bits: 2×4 = 8

(a) Write down the toxic effect of acrylamide.
(b) Write down the name of one intercalator and groove binder of DNA.
(c) What is the utility of circular dichroism in the structural study?
(d) What is As (arsenic) toxicity?
(e) Write down the structure of RNA.
(f)What is nucleoside?

2. Answer any ***four*** bits: 4×4 = 16

(a) Write the down principle and application of the SEM technique.
(b**)** What do you mean by toxicology?How do toxic chemicals affect the enzyme activity?
(c) How UV spectrophotometric study helps to understand the protein-drug interaction?
(d) Write the difference between DNA and RNA.
(e) How protein is developed from DNA
(f) Write down the working principle of circular dichroism spectroscopy.

3. Answer any ***two*** questions 2×8 = 16

(a) What do you mean by protein? How can we classify protein? Write its property and utilization. (2+3+3)
(b) Write the toxic effect BP-A? How fluorescence spectroscopy helps to understand the drug-DNA interaction? (3+5)
(c) Write the structure of thymine. Why DNA is the major target for drug molecule? How circular Dichroism spectroscopy will be used in drug development research? (2+2+4)

(d) (i) Write a short note on working principle of Atomic Force Microscopy (AFM). 4
(ii) Write a short note on toxic effect of N,N-Diethyl-meta-toluamide (DEET). 4

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Internal Assessment-10

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