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FNDFNC 365

**Credit Based Sixth Semester B.Sc. (FND) Degree
Examination, September 2022
(2020 – 2021 and Earlier Batches)
CHEMISTRY (Paper – IV)**

Time : 3 Hours

Max. Marks : 80

PART – A

I. Answer **any ten** of the following. (10×2=20)

- 1) a) What is COD and BOD ?
- b) Define R_f value.
- c) Name any two pollutants responsible for water pollution.
- d) Define equivalent conductance. Write its SI unit.
- e) State second law of thermodynamics.
- f) What is EMF ?
- g) What are chiral molecules ? Give an example.
- h) Write the structure of (+) tartaric acid and (–) tartaric acid.
- i) Write any two applications of IR spectroscopy.
- j) Explain isoprene rule.
- k) Define polymers.
- l) What are alkaloids ? Give an example.

PART – B

II. Answer the following. (4×15=60)

Unit – I

- 2) a) Explain the process of sewage water treatment. 5
- b) Explain the effect of radioactive waste on soil pollution. 5
- c) Define chromatography. Explain its general principle. 5

OR

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- 3) a) Write a note on control of soil pollution. 5
b) Explain different sources of water pollution. 5
c) Explain the principle and application of TLC. 5

Unit – II

- 4) a) Write a note on EMF. 5
b) Explain the determination of pH of a solution using Quinhydrone electrode. 5
c) Define Lechatelier principle. Explain the effect of temperature on equilibrium. 5

OR

- 5) a) Write the principle and advantage of conductometric titration. 5
b) Explain the determination of equivalent conductance of solution of an electrolyte. 5
c) Explain the factors responsible for equilibrium. 5

Unit – III

- 6) a) Explain geometrical isomerism in oximes. 5
b) Write a note on conformational isomerism in ethane. 5
c) Explain principle and application of NMR spectroscopy. 5

OR

- 7) a) Explain optical isomerism of tartaric acid. 5
b) Give a note on elements of symmetry. 5
c) Explain the instrumentation of IR spectroscopy. 5

Unit – IV

- 8) a) Explain the aromatic characteristic of furan. 5
b) Explain the classification of terpenes. 5
c) Write a note on the physiological action of nicotine. 5

OR

- 9) a) Explain the classification of alkaloid. 5
b) Explain preparation and application of Bakelite. 5
c) Write the structure and importance of menthol and camphor. 5