

B.Tech I Year I Semester (R15) Supplementary Examinations June/July 2019

BASIC CHEMISTRY

(Food Technology)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What is chemical potential?
 - Write any two applications of EMF measurements.
 - What is activity coefficient?
 - Write chain reaction with an example.
 - Write the wavelength region of IR and microwave.
 - What is coordination number?
 - What is nucleophilic reaction? Give an example.
 - What is sublimation?
 - Define entropy.
 - What are natural products? Give an example.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 Explain about:
- Concept of entropy.
 - Solubility product.
 - Electrochemical cells.

OR

- 3
- Write about thermodynamic data and activity coefficients.
 - Write a short note on Maxwell relations.

UNIT – II

- 4
- What are reversible and consecutive reactions?
 - Write the postulates of molecular orbital theory.

OR

- 5
- Explain about photochemical kinetics of hydrogen.
 - Write about valence – bond theory.

UNIT – III

- 6
- Write the principle and applications of IR spectroscopy.
 - Explain about chelate effect.

OR

- 7
- Explain the role of metal ions in biological systems.
 - What is coordination complex? Write its uses.

UNIT – IV

- 8 Write about:
- Friedel craft reactions.
 - Reimer – Tiemann reactions.

OR

- 9
- Write the mechanism of additional polymerization.
 - Write notes on biomolecules.

UNIT – V

- 10
- Explain phase rule to two component systems.
 - Write about crystallization and filtration.

OR

- 11
- Write the various properties of colloids.
 - Write the principle and applications of paper chromatography.