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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)

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

PART – B

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

UNIT – I

2 Explain about:
- (a) Concept of entropy.
- (b) Solubility product.
- (c) Electrochemical cells.

OR

3 (a) Write about thermodynamic data and activity coefficients.
(b) Write a short note on Maxwell relations.

UNIT – II

4 (a) What are reversible and consecutive reactions?
(b) Write the postulates of molecular orbital theory.

OR

5 (a) Explain about photochemical kinetics of hydrogen.
(b) Write about valence – bond theory.

UNIT – III

6 (a) Write the principle and applications of IR spectroscopy.
(b) Explain about chelate effect.

OR

7 (a) Explain the role of metal ions in biological systems.
(b) What is coordination complex? Write its uses.

UNIT – IV

8 Write about:
- (a) Friedel craft reactions.
- (b) Reimer – Tiemann reactions.

OR

9 (a) Write the mechanism of additional polymerization.
(b) Write notes on biomolecules.

UNIT – V

10 (a) Explain phase rule to two component systems.
(b) Write about crystallization and filtration.

OR

11 (a) Write the various properties of colloids.
(b) Write the principle and applications of paper chromatography.

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