Code: 15A51103

R15

B.Tech I Year I Semester (R15) Regular Examinations November/December 2018
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)   Define entropy.
   (b)   Write any two applications of EMF measurements.
   (c)   What is parallel reaction? Give an example.
   (d)   Write the wavelength region of microwave and IR.
   (e)   What is chelate effect?
   (f)   What is coordination number?
   (g)   Write Perkin reaction.
   (h)   Write short note on hemoglobin.
   (i)   Write any two causes of corrosion.
   (j)   Write any two properties of colloids.

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

UNIT – I

2   Explain about:
   (a)   Maxwell relations.
   (b)   Electrochemical calls.

OR

3   Define chemical potential. Write about thermodynamic data and solubility product.

UNIT – II

4   (a)   Explain about photochemical kinetics for bromine.
    (b)   Describe about Valence Bond theory.

OR

5   (a)   Write the postulates of molecular orbital theory.
    (b)   Write notes on crystal field theory.

UNIT – III

6   What are selection rules and explain about metal ions in biological systems.

OR

7   (a)   Write the principle and applications of UV-spectroscopy.
    (b)   Write the principle and applications of microwave spectroscopy.

UNIT – IV

8   (a)   Write an account on Friedel craft reactions.
    (b)   Write Reimer Tiemann reactions.

OR

9   (a)   Write the mechanism of additional polymerization.
    (b)   Write Aldol condensation.

UNIT – V

10 (a)   Explain phase rule for one component systems with an example.
    (b)   Write the principle of TLC.

OR

11 (a)   Explain about column chromatography.
    (b)   Write the classification and properties of colloids.