026

Code No. 3300/E

FACULTY OF SCIENCE
B.Sc. VI-Semester (CBCS) Examination, May / June 2019

Subject : Chemistry

Paper – VII (DSC)

Time : 3 Hours   Max. Marks: 60

PART – A (5 x 3 = 15 Marks)
(Short Answer Type)
Note : Answer any FIVE of the following questions.

1 Define Labile and Inert complexes. Give one example each.
2 Write the biological significance of Na and Mg.
3 Give Lobry de bruyn Van Ekenstein rearrangement.
4 What is meant by Isoelectric point? Give suitable example.
5 Derive $C_p - C_v = R$.
6 Write about various state functions and path functions.
7 What are equivalent and nonequivalent protons?
8 Write about the entropy change for spontaneous, Non spontaneous and equilibrium processes.

PART – B (45 Marks)
(Essay Answer Type)
Note: Answer ALL from the questions.

9 (a) Explain SN^1 reactions of octahedral complexes.   (11)
   OR
   (b) Explain Pearson's classification of Hard and Soft Acids and Bases.

10 (a) Explain the following: (11)
       (i) Mutarotation (ii) Anomers (iii) Epimers
   OR
   (b) How Alanine and Valine are prepared from Malonic ester synthesis?

11 (a) Explain Carnot cycle. Derive an expression for the efficiency of reversible heat engine working between T_1 and T_2 temperatures.   (11)
   OR
   (b) State and explain I law of thermodynamics.

12 (a) Explain the basic principles of mass spectroscopy.   (12)
   OR
   (b) Derive Gibbs-Helmotz equation.

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