

Total No. of Pages 02
SECOND SEMESTER

Roll No. 940
B.Tech. (Group B)

END SEMESTER EXAMINATION

May-2014

AC-104 APPLIED CHEISTRY

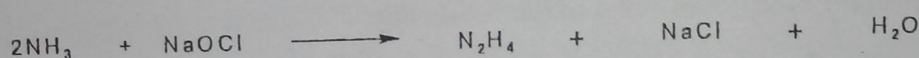
Time: 3:00 Hours

Max. Marks: 70

Note: Q. NO. 1 is compulsory.
Attempt any FIVE questions from remaining.
Assume suitable missing data, if any.

1(a) What do you understand by 'theory of indicators'? Explain taking the example of any two neutralization indicators. 5

(b) Hydrazine (N_2H_4) is used for rocket fuel. Calculate the atom economy for hydrazine production. 5



2(a) Define and classify volumetric analysis. Write short note on redox titration. 6

(b) Define DSC. Explain the principle and significance of DSC. 6

3(a) Equal number of polymeric molecules with $M_1 = 10,000$ and $M_2 = 100,000$ are mixed. Calculate polydispersity index. 6

(b) Draw schematic diagram of double beam UV-Visible spectrophotometer. Explain the term involved. 6

4(a) Classify polymer on the basis of tacticity. Explain the mechanism of anionic polymerization with suitable example. 6

(b) Write the characteristic IR Absorption Frequencies of the following Organic Functional Groups: O-H; N-H; NO_2 ; C=O for Aldehyde; C=O for ester; $C\equiv N$. 6

5(a) Write any six principles of green chemistry. Explain any one in detail. 6

(b) What is a secondary battery? Write charging-discharging reactions taking place in Lead-Acid batteries. 6

6 (a) Define peptide bond. Explain the structure of proteins in detail. 6

(b) What is triple point of water? Draw the phase diagram of water system and explain. 6

7(a) Draw the phase diagram of Lead-Silver System. Explain the areas, curves, lines and points involved in the diagram. 6

(b) What do you understand by Electroplating? Explain the reactions involved by taking a suitable example. 6

8. Write short note on any two of the following: 12

(a) Use of Green Solvents

(b) Cellulose and their Derivatives

(c) Biodegradable Polymer

(d) Lithium-Ion Batteries