

D.K.M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1
SEMESTER EXAMINATIONS
APRIL - 2017
GENERAL CHEMISTRY - IV

15CCH4A

Time : 3 Hours

Max. Marks : 75

SECTION – A (10 x 2 = 20)

Answer ALL the questions.

1. Mention the structure of IF_3 and IF_7 .
2. Name the elements of Carbon family.
3. What is Haffman's bromamide reaction?
4. What is Carbylamine reaction?
5. Write the IUPAC name of Crotonaldehyde and Cinnamaldehyde.
6. How acetic acid is prepared from Grignard reagent?
7. What are azeotropic mixtures?
8. Define Henry's law.
9. What is Van't Hoff factor?
10. State Nernst's distribution law.

SECTION – B (5 x 5 = 25)

Answer any FIVE of the following questions.

11. Explain the structure of interhalogen compounds of the type AX_5 and AX_7 .
12. Write notes on oxyacids of sulphur.
13. Write notes on a) Gabriel's Phthalimide reaction.
b) Mannich reaction.
14. Explain the basic nature of amines.
15. Give the preparation of Benzoin and acetophenone.
16. What is the action of heat on Oxalic acid and Succinic acid?
17. State Raoult's law and write notes on vapour pressures of ideal solutions.
18. Derive an expression for Nernst distribution coefficient.

SECTION – C (3 x 10 = 30)

Answer ALL the questions.

19. (a) Give a comparative study of Oxygen family elements.
(Or)
(b) Give a comparative study of Nitrogen family elements.
20. (a) i) Write any five differences between primary, secondary and tertiary amines.
ii) Write notes on Libermann's nitroso reaction and Coupling reactions.
(Or)
(b) Write notes on i) Cannizzaro reaction.
ii) Esterification.
iii) Strength of carboxylic acids.

21. (a) Derive an expressions for free energy change and volume change of mixing ideal solutions.

(Or)

(b) i) Derive an expression for depression in freezing point.

(6+4)

ii) Write notes on effect of impurities on CST.

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