SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.
B.Sc.Chemistry - END SEMESTER EXAMINATIONS - NOV'2024
SEMESTER - III

22UCHCT3005 - Organic Functional Groups and Hetero Cyclic Compounds

Total Duration : 2 Hrs.30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. An aliphatic aldehyde is more reactive than aliphatic ketone. Explain.
2. Classify alcohols giving example for each.
3. What are the different types of nitro compounds? Explain with examples.
4. Explain why piperidine is a atronger base than pyridine?
5. Discuss the effect of electron releasing and electron withdrawing substituents on the acidity of carboxylic acids.
6. Explain the acidic character of phenols based on resonance.
7. Compare the basicity of N-methylaniline and diphenylamine.
8. What happens when quinoline and isoquinoline are oxidised with alkaline $KMnO_4$?

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. Explain the following :
   a. Benzoin condensation b.Michael addition c. MPV reduction
   d. Wittig reaction
10. Give two methods of preparation of lactic, acetic and succinic acid.
11. Discuss in detail the mechanism of nitration, sulphonation, halogenation and nitrosation reaction of phenols.
12. a. How will you differentiate primary, secondary and tertiary amine by Hinsberg's method?
    b. Why does nitrocompounds have high boiling point? Justify it.
13. Explain the following:
    a. Thiophene is more aromatic then furan.'
    b. Furan exhibits diene character.
    c. Furan is not stable to acids
    d. Pyrimidine gives nucleophilic substitution at position 5 while nucleophilic substitution at position -4

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