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Name.....

Reg. No.....

**FIFTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2025**

Chemistry

CHE 5B 07—ORGANIC CHEMISTRY—II

(2019 Syllabus)

Time : Two Hours

Maximum : 60 Marks

Section A (Short Answers)*Answer questions up to 20 marks.**Each question carries 2 marks.*

1. Phenol can be nitrated more easily than benzene. Why ?
2. Briefly explain Lucas Test for alcohols.
3. What is the reaction of propanone with ethyl magnesium bromide in dry ether followed by hydrolysis ?
4. What are crown ethers ? Give the structure of 15-crown-5.
5. What is the reaction of Grignard reagent with CO_2 followed by hydrolysis ?
6. Identify the product formed when ethyl-2-bromoacetate reacts with benzaldehyde in the presence of Zn followed by hydrolysis. What is the name of this reaction ?
7. How can you convert aldehydes to cyanohydrins? What products are obtained when cyanohydrins are hydrolysed ?
8. What is Iodoform reaction ? Give 2 examples of molecules that respond positively to this reaction.
9. 2-chloroacetic acid is more acidic than acetic acid. Why ?
10. Give a method to prepare cinnamic acid ?
11. What are Sulpha drugs ? Give examples.
12. How is furan prepared from furfural ?

(Ceiling of marks : 20)

Turn over

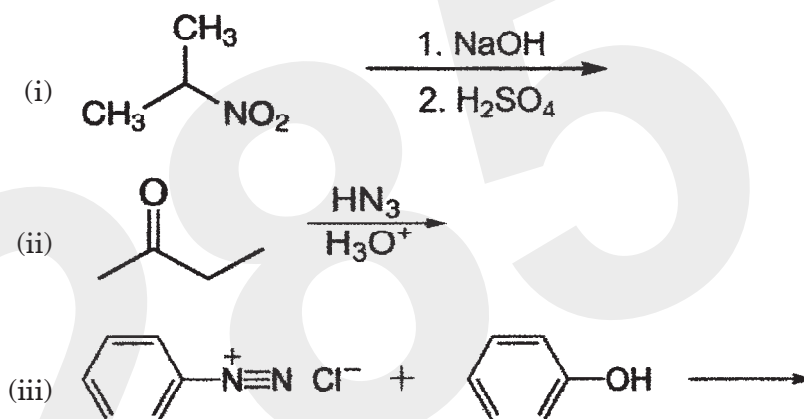
Section B (Paragraph)*Answer questions up to 30 marks.**Each question carries 5 marks.*

13. What is Riemer-Tiemann reaction ? Explain with supporting mechanism.
14. Give an account of Claisen rearrangement with mechanism.
15. Explain Aldol Condensation and Cannizzaro reaction.
16. Explain with suitable examples on how the chain length of carboxylic acids can be increased and decreased ?
17. What are sulphonic acids ? Compare their acidity with that of alcohols, phenols, carboxylic acids.
18. (a) The pK_b value of ammonia is approximately half that of aniline. Why ?
(b) Explain Hoffmann Bromamide Reaction.
19. Discuss in detail the Fischer-Indole synthesis.

(Ceiling of marks: 30)

Section C (Essay)*Answer any one question.**The question carries 10 marks.*

20. (a) Explain pinacol-pinacolone rearrangement ? Give the mechanism for the reaction.
(b) Give an account of the reduction reactions of carbonyl compounds taking MPV, Wolf-Kishner and $LiAlH_4$ reduction reactions.
21. (a) Explain the electrophilic substitution reactions of Aniline.
(b) Complete the following reactions.



(1 × 10 = 10 marks)