

19U512S

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Name:

Reg. No:

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS- UG)

CC15U CHE5 B07 - ORGANIC CHEMISTRY-II

(Chemistry – Core Course)

(2015 to 2018 Admissions – Supplementary/Improvement)

Time: Three Hours

Maximum: 80 Marks

Section A

Answer *all* questions. Each question carries 1 mark.

1. Reaction of phenol with CCl_4 and aq. NaOH gives
2. Hydroboration oxidation of propene gives
3. Reaction of alkenes with peracids is known as
4. Macrocyclic poly ethers are known as
5. Diethylzinc reacts with water to form
6. Acetone when warmed with iodine and NaOH yields yellow crystals of
7. Acetophenone when heated with zinc amalgam and con. HCl gives
8. The reaction of benzoic acid with PCl_5 yields
9. Heating sodium benzoate with soda lime yields
10. Action of ammonia with phosgene yields

(10 × 1 = 10 marks)

Section B (Short answer Question)

Answer any *ten* questions. Each question carries 2 marks.

11. How can phenol be converted to picric acid?
12. How is phenolphthalein prepared?
13. What are crown ethers? Give an example.
14. What is Williamson's synthesis?
15. How can methyl magnesium iodide be converted into ethane? Give equation.
16. What are Frankland reagents? Give their general method of preparation.
17. What is Oppenauer oxidation?
18. What is Etard's reaction? Illustrate with an example.
19. What is HVZ reaction?
20. Mention the important uses of citric acid.
21. What is meant by carbylamine reaction?
22. How is ethyl acetoacetate converted to acetic acid?

(10 × 2 = 20 Marks)

Section C (Paragraph questions)

Answer any *five* questions. Each question carries 6 marks.

23. Explain the acidity order of ethyl alcohol, isopropyl alcohol, and tert-butyl alcohol.
24. Explain the Zeisel's method of estimation of methoxy groups.
25. How Grignard reagents are prepared? Discuss and illustrate how 1^o, 2^o and 3^o alcohols are prepared from Grignard reagents.
26. What is Aldol condensation reaction? Explain it with suitable example.
27. Explain the Hofmann elimination reaction with a suitable example.
28. What is Pinacol-Pinacolone rearrangement? Discuss the mechanism of this reaction.
29. Discuss the reduction products of nitrobenzene under different media.
30. Explain Reformatsky reaction with suitable example.

(5 × 6 = 30 Marks)

Section D (Essay questions)

Answer any *two* questions. Each question carries 10 marks.

31. Explain the following reactions with mechanism.
 - (i) Riemer-Tiemann reaction.
 - (ii) Kolbe's reaction.
 - (iii) Liebermann's nitroso reaction
 - (iv) Haloform reaction.
32. Explain SN¹ and SN² mechanism with special reference to stereochemistry and solvent effects.
33. Give a detailed account of the effect of substituents on the acidity of aliphatic and aromatic carboxylic acid.
34. How is benzene diazonium chloride prepared? Discuss their synthetic applications.

(2 × 10 = 20 Marks)
