

B Sc DEGREE END SEMESTER EXAMINATION MARCH 2017**SEMESTER - 4: CHEMISTRY (CORE COURSE)****COURSE: U4CRCHE4: BASIC ORGANIC CHEMISTRY I***(Supplementary for 2014 admission)*

Time: Three Hours

Max. Marks: 60

PART AAnswer **all** the questions. Each question carries **1** mark.

1. Ethyl acetoacetate is prepared from ethyl acetate by reaction.
2. Complete the equation: Phenol $\xrightarrow{\text{CHCl}_3 + \text{KOH}}$?
3. Hinsberg's reagent is
4. Name the product when 2-butanol undergoes oxidation with KMnO_4 .
5. A solution of chromic acid and sulphuric acid in water is called
6. Organozinc reagents are otherwise called
7. What is the chemical name for urotropine?
8. Hunsdiecker reaction is used for the preparation of (1 x 8 = 8)

PART BAnswer **any six** questions. Each question carries **2** marks.

9. Sulphonamides are acidic than carboxylic acid amides. Why?
10. How will you prepare allyl alcohol from propene?
11. How will you prepare semi-carbazide from urea?
12. Write down the preparation of anthraquinone.
13. How is hemiacetal prepared?
14. What are active hydrogen compounds? How do they react with Grignard reagents?
15. How can you prepare citric acid by Reformatsky reaction?
16. What do you understand by the term 'Zwitter ion'? (2 x 6 = 12)

PART CAnswer **any four** questions. Each question carries **5** mark.

17. Give the mechanism of: i) Perkin reaction; ii) Wittig reaction.
18. Discuss the mechanism of Pinacol-Pinacolone rearrangement?
19. Describe Zeisel's method of estimation of alkoxy groups.
20. What is coumarin? How can it be prepared? What are its uses
21. Starting from methyl magnesium iodide, how will you prepare:
 - i) Ethanol
 - ii) Acetic acid
 - iii) Methyl ethyl ether
 - iii) Methane

22. Explain (a) In anthracene, the 9,10-positions are usually attacked. Why?
(b) oxidation of phenanthrene. (5 x 4 = 20)

PART D

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

23. Discuss the following reactions and mechanisms:
- Clemmensen reaction.
 - Knoevenagel condensation.
 - Wolff-Kishner reduction.
 - Mannich reaction.
24. i) Give an account of tautomerism in ethyl acetoacetate.
ii) How will you prepare the following compounds from malonic ester?
a) Succinic acid;
b) crotonic acid;
c) Dimethyl acetic acid?
25. i) How will you convert:
a) oxalic acid into allyl alcohol;
b) maleic acid to malic acid;
c) adipic acid into Nylon-66?
ii) Give an account of Williamson's synthesis of ether.
26. i) Give any three synthetic applications of alkyl lithium.
ii) What is Hoffmann's degradation of amides? Discuss its mechanism.
iii) How will you synthesize acetamide from acetaldehyde? (10 x 2 = 20)
