

**B. Sc. DEGREE END SEMESTER EXAMINATION – JULY 2021****SEMESTER – 4: CHEMISTRY (CORE COURSE)****COURSE: 15U4RCHE4 – ORGANIC CHEMISTRY II**

*(Common for Improvement 2018 admission / Supplementary 2018/2017/2016/2015 admissions)*

Time: Three Hours

Max. Marks: 60

**SECTION A*****Answer all the questions. 1 mark each***

1. Convert toluene to benzaldehyde.
2. What are oxiranes?-
3. Guanidine is highly basic. Why?
4. Gilman reagent is .....
5. Represent the tautomerism shown by ethyl aceto acetate.
6. Sulphonation of naphthalene at 160<sup>o</sup>C gives .....
7. Give one use of lead tetra acetate.
8. Suggest a preparation method for oxalic acid (1 × 8 = 8)

**SECTION B*****Answer any six questions. 2 marks each***

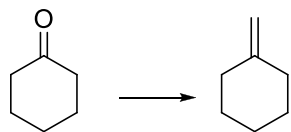
9. How will you convert ethanol to methanol?
10. Arrange the following in the increasing order of the acid strength. Justify your answer  
Oxalic acid ,adipic acid ,malonic acid ,succinic acid
11. What happens when benzaldehyde is reacted with acetic anhydride in presence of sodium acetate?
12. Explain the manufacture of urea.
13. How will you synthesize citric acid using Reformatsky reaction?
14. Give the isomeric forms of naphthaquinones.
15. How urotropine is formed? Mention its use.
16. How will you prepare succinic acid using malonic ester? (2 × 6 = 12)

**SECTION C*****Answer any four questions. 5 marks each***

17. How is naphthalene is prepared? Give the oxidation and reduction products of naphthalene under different conditions.
18. Write the chemical equations when
  - (i) anisole reacts with HI at 375K
  - (ii) allyl alcohol on mild oxidation with alkaline KMnO<sub>4</sub>
  - (iii) cyclohexanone reacts with perbenzoic acid
  - (iv) Phenol reacts with CHCl<sub>3</sub> and NaOH

19. How the following conversions are affected? Explain with mechanism

(i)



(ii) Butanone to butane

20. Explain Ziesels method of estimation of alkoxy group.

21. Write a note on (i) Mannich reaction (ii) Knoevenagel reaction

22. How will you convert (i) Acetic acid to propanoic acid (ii) Acetylene to acrylic acid

(5 × 4 = 20)

#### Section D

**Answer any Two questions. 10 marks each**

23. Discuss the following reactions and mechanism

(i) Baeyer Villiger oxidation (ii) Meerwein -Pondorf- Verley reaction.

24. Write a note on (i) Use of acetal as protecting group (ii) Acidity of phenol (iii) Semicarbazide

(iv) Enamines

25. (a) How will you convert (i) Naphthalene to phenanthrene (ii) Maleic acid into Malic acid

(b) Discuss the effect of substituent on acid strength of aliphatic carboxylic acid

26. (a) Give the method of preparation and uses of (i) coumarin (ii) resorcinol

(b) Explain the synthetic applications of Grignard reagent

(10 × 2 = 20)

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