

QP CODE: 24020648



Reg No : .....  
Name : .....

**B.Sc DEGREE (CBCS) REGULAR EXAMINATIONS, APRIL 2024**

**Fourth Semester**

**Core Course - CH4CRT04 - ORGANIC CHEMISTRY-II**

(Common for B.Sc Chemistry Model I ,B.Sc Chemistry Model II Industrial Chemistry, B.Sc Chemistry Model III Petrochemicals)

2017 Admission Onwards

5A900432

Time: 3 Hours

Max. Marks : 60

**Part A**

*Answer any ten questions.*

*Each question carries 1 mark.*

1. Name the functional isomer of saturated alcohol.
2. Write the product obtained when secondary alcohols are oxidized.
3. Name the reagents used for the conversion of Ethylene glycol to formaldehyde.
4. Draw the structure of phenetol.
5. Illustrate the use of dialkyl cadmium in the synthesis of carbonyl compounds. What is its merit over Grignard reagents?
6. Convert ethylacetate to t-butyl alcohol.
7. What is Knoevenagel reaction?
8. Suggest a synthesis of methylene cyclohexane from cyclohexanone.
9. What happens when ethyl alcohol is subjected to oxidation with potassium dichromate?
10. Which is more acidic ? acetic acid or chloro acetic acid . Why?
11. What is Arndt- Eistert reaction?
12. How will you prepare oxalic acid from glucose?

(10×1=10)

**Part B**

*Answer any six questions.*

*Each question carries 5 marks.*

13. What are the products obtained when Glycol react with Lead tetra acetate and Periodic acid?



14. a) Describe the mechanism of Bromination and Sulphonation of phenol.  
b) Explain Fries Rearrangement with mechanism.
15. a) Give one example of a reaction involving molecular rearrangement in an epoxide?  
b) Sterically hindered epoxides in acid conditions follow SN1 mechanism but in basic conditions follow SN2 mechanism. Why?
16. How is benzaldehyde prepared? How benzaldehyde reacts with  
a) sodium hydroxide  
b) acetaldehyde in presence of sodium hydroxide
17. Predict the products in the following conversions. Write down the mechanism involved in it
- a)  $\text{H}_2\text{C}=\text{CH}-\text{CH}=\text{O} + \text{CH}_3\text{NO}_2 \xrightarrow{\text{C}_2\text{H}_5\text{O}^-} ?$
- b)  $\text{H}_2\text{C}=\text{CH}-\text{CH}=\text{O} + \text{H}_2\text{C}(\text{COOC}_2\text{H}_5)_2 \xrightarrow{\text{C}_2\text{H}_5\text{O}^-} ?$
18. Explain Baeyer-Villiger oxidation with mechanism? What happens when cyclopentanone is subjected to Baeyer-villiger oxidation?
19. Explain briefly the reaction of acid chloride with  
a) Lithium Aluminium Hydride b) Grignard reagent
20. How will you convert  
a) Phthalic acid to anthranilic acid  
b) Anthranilic acid to aniline
21. How will you convert toluene to p-toluene sulphonyl chloride?

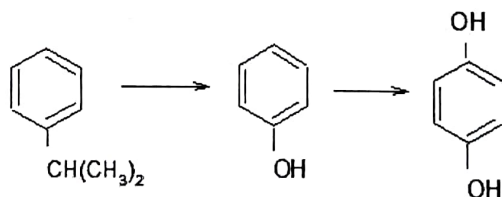
(6×5=30)

### Part C

Answer any **two** questions.

Each question carries **10** marks.

22. How will you carry out the following conversion? Explain the different steps involved in each conversion.



23. Discuss the mechanisms of the following reactions highlighting the synthetic importance.  
a) Clemmenson reduction b) Meerwein-Ponndorf-Verley reduction
24. Explain with mechanism  
a) Reimer-Tieman reaction  
b) Knoevenagel reaction  
c) Kolbe-Schmidt reaction
25. Suggest a method of synthesis for the following compounds from toluene  
a) Chloramine T b) saccharin c) o- and p- toluene sulphonyl chloride

(2×10=20)