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QP CODE: 20100827

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Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) EXAMINATION, MARCH 2020

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

18C39D2E

Time: 3 Hours

Marks: 60

**Part A***Answer any ten questions.**Each question carries 1 mark.*

1. Draw the structure of Phenyl methanol.
2. Give any one chemical test to distinguish the three type of alcohols.
3. What is picric acid? Give any one use of picric acid.
4. What is the difference between cyclic ethers and Epoxides?
5. How do you prepare acetaldehyde from Ethyl formate?
6. Name a chromium based oxidising agent for the conversion of primary alcohols to aldehydes and secondary alcohol to ketone. Give its chemical composition.
7. What is the advantage of  $\text{NaBH}_4$  over  $\text{LiAlH}_4$  in carbonyl reductions?
8. What is Benzil-benzilic acid rearrangement?
9. What happens when ethyl alcohol is subjected to oxidation with potassium dichromate?
10. What is benedict's reagent? How is it formed?
11. What are sulphonyl chlorides?
12. How will you convert propionic acid to acrylic acid?

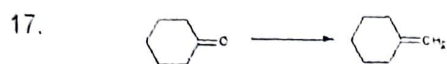
(10×1=10)

**Part B***Answer any six questions.**Each question carries 5 marks.*

13. Suggest a method for the conversion of  
a) 2-propanol to 2-methyl-2-propanol



- b) Ethanol to 2-propanol
14. Outline the conversion of cumene to phenol .
15. Explain with mechanism Intra molecular and Inter molecular Fries Rearrangement.  
What are the products obtained when
16. a) formaldehyde reacts with NaOH?  
b) anisaldehyde reacts with formaldehyde in presence of NaOH?
- Write down the mechanism involved in the following conversions.



18. What are Michael addition reactions? Give the mechanism and one application.
19. What is the effect of substituents on the acid strength of monocarboxylic acid?
20. Suggest a conversion method of adipic acid to  
a) cyclopentanone b) Nylon 6,6
21. Suggest a method of synthesis of maleic acid from a) benzene b) malic acid.

(6×5=30)

#### Part C

*Answer any two questions*

*Each question carries 10 marks.*

22. Discuss the mechanism of acid and base catalysed cleavage of epoxides.  
Write the mechanisms of the following conversions
23. 1. Benzaldehyde to cinnamic acid  
2. Malonic ester to Crotonic acid  
3. Benzaldehyde to cinnamaldehyde
24. a) Give the synthetic applications of acyl halides.  
b) Explain Claisen Condensation reaction with mechanism.

Convert the following

25. 1. Acetic acid to propionic acid  
2. Propionic acid to acetic acid  
3. Benzaldehyde to cinnamic acid  
4. Acetone to 3-methyl, 2- butenoic acid

(2×10=20)

