QP CODE: 22100031

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Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, JANUARY 2022

Fifth Semester

CORE COURSE - CH5CRT06 - ORGANIC CHEMISTRY-III

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

2017 Admission Onwards

FC752A0A

Time: 3 Hours

Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Name the compound – $O_2NCH_2CH(C_6H_5)CH_2COOC_2H_5$
2. Give the product when phenyl nitromethane is reduced with Zn dust and NH_4Cl.
3. Hoffmann bromamide reaction gives an amine with one carbon less than parent compound - true/false?
4. $N_2CHCOOEt + HCl \rightarrow ?$
5. What are heterocyclic compounds?
6. What is the intermediate formed in a Claisen ester condensation in preparation of ethyl acetoacetate?
7. What happens when fructose is treated with nitric acid?
8. What are artificial sweetners? Mention their importance.
9. What are antipyretics? Give example.
10. What are stimulants? Give one example.
11. Give two examples of synthetic food colours.
12. What is Zeigler Natta Catalyst?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Distinguish Hofmann and Saytzeff elimination products with examples.
14. How will you convert aniline to (a) 1,3,5-tribromobenzene and (b) benzene?
15. Explain the electrophilic and nucleophilic substitution reactions of quinoline.
16. What are enamines? Illustrate with example, how they are useful in alkylation of carbonyl compounds?
17. What are carbohydrates? How are they classified?
18. How will you convert arabinose to glucose and mannose
19. What are sulpha drugs? Give two examples. Expalin the mode of action of sulpha drugs.
20. What are dyes? What are the requisites of a Dye?
21. (a) How are nylons named? Illusrate using examples.
    (b) Write the synthesis of two commercially important nylons.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. (a) Explain various factors that affect the basicity of aniline? (b) Compare aliphatic and aromatic amines.
23. Discuss the electrophilic and nucleophilic substitution reactions of pyridine. Also give the molecular orbital concept regarding its structure.
24. (a) What are disaccharides? Draw the cyclic structure of (i) maltose (ii) cellobiose and mention the monosaccharide units present in it.
    (b) Biiefly explain the reactions and uses of sucrose.
25. (a) Discuss the preparation and application of the synthetic rubbers:
        (i)SBR (ii)Neoprene
    (b)What are conducting polymers? Explain with suitable example.

(2×10=20)