K20U 0864

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CBCSS - Reg./Sup./Imp.) Examination, April 2020
(2014 Admn. Onwards)
Core Course in Chemistry
4B06CHE : ORGANIC CHEMISTRY – II

Time : 3 Hours Total Marks : 40

Instruction : *Answer the questions in* ***English*** *only.*

SECTION – A

(Very short answer type. **Each** carries **1** mark. Answer **all 4** questions).

1. Which is the electrophile in aromatic sulphonation ?
2. Give example for an optically active compound without a stereo centre.
3. What is the value of n in Huckels rule in cyclopentadienyl anion ?
4. Mention one non-reducing sugar. **(4x1=4)**

SECTION – B

(Short answer type. **Each** carries **2** marks. Answer **7** questions out of 10).

5. Explain SNAr mechanism.
6. What is meant by racemization ?
7. Give the mechanism of Friedel Craft's acylation.
8. Give two examples for biodegradable polymers. Why are these susceptible to microorganism ?
9. What are thermo and thermosetting plastics ? Mention one example for each.

P.T.O.

10. How does glucose react with hot concentrated acid ?

11. What is meant by dihedral angle ?

12. Explain with equation the silver mirror test for glucose.

13. Give the conformational analysis of ethane with energy profile diagram.

14. Represent the Fischer formula of threo 2, 3-dibromobutane. **(7×2=14)**

SECTION – C

(Short essay/problem type. **Each** carries **3** marks. Answer **4** out of 6).

15. Point out the structural differences between starch and cellulose with proper diagram.

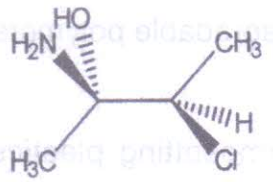
16. Represent the conformational itinerary of cyclohexane and draw the energy profile diagram.

17. How is Glucose converted into Fructose and vice versa ?

18. Draw the Fischer formula of the different stereoisomers of tartaric acid and assign R/S notation to asymmetric carbons.

19. What are phenolic and epoxy resins ? Give one example for each.

20. Convert the given Wedge-Dash form into Fischer formula. **(4×3=12)**



SECTION – D

(Long essay type. **Each** carries **5** marks. Answer **2** questions out of 4).

21. Explain chirality and optical activity. Describe in detail, the different methods of resolution of optical isomers.

22. Discuss aromaticity in terms of Huckels rule, MO and sextet theory with benzene as example.

23. Give the methods of preparation of

    a) Indole

    b) Quinoline

    c) Isoquinoline and

    d) pyrimidine.

24. Discuss the effect of electron releasing and electron withdrawing groups on orientation of the second substituent in aromatic electrophilic substitution.

(2×5=10)