

**THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2017**

(CUCBCSS-UG)

Complementary Course

CHE 3C 03—ORGANIC CHEMISTRY

Time : Three Hours

Maximum : 64 Marks

**Section A (One word/Sentence)***Answer all the questions.**Each carries 1 mark.*

- Higher homologues of Alkane can be prepared by the reaction :
  - Wortz.
  - HVZ.
  - Hydrogenation.
  - Haloform.
- How many stereoisomers are possible in Lactic acid ?
- E-Z designation is used in the case of :
  - Geometrical isomerism.
  - Optical isomerism.
  - Position isomerism.
  - Functional group isomerism.
- According to Huckel rule, what is the value of 'n' in the case of Anthracene.
- When - OH, - COOH, - CN and - NO<sub>2</sub> groups are present in a molecule, principal functional group is :
  - OH.
  - NO<sub>2</sub>.
  - COOH.
  - CN.
- Which is the terpenoid occur in peppermint oil ?
- Pick out the Polysaccharide from the following :
  - Sucrose.
  - Maltose.
  - Starch.
  - Lactose.
- Out of the following which alkene is more stable :
  - Cis-2 butene.
  - Trans-2 butene.
  - Propene.
  - Ethene.
- How many Pi electron present in Acetylene ?
- Homolytic fission of covalent bond liberates \_\_\_\_\_.

(10 × 1 = 10 marks)

Turn over

**Section B (Short Answers)***Answer any seven questions.**Each carries 2 marks.*

11. Explain Kolbe's electrolytic method.
12. Explain why chair conformation of Cyclohexane is more stable than boat conformation.
13. Explain Huckel rule's of aromaticity.
14. How many optical isomers possible for the compound 3-chloro 2-butanol ? Draw the structure.
15. Phenol is stronger acid than an alcohol. Why ?
16. Briefly describe the structure of starch.
17. Compare the stability of 1-butene and 2-butene.
18. Explain the process vulcanisation.
19. What are fibrous proteins ?
20. Write the effect of structure on reactivity of Alkyl halide by  $SN^2$  mechanism.

 $(7 \times 2 = 14 \text{ marks})$ **Section C (Paragraphs)***Answer any four questions.**Each carries 5 marks.*

21. Write a brief note on the optical activity of Tataric acid.
22. Write the method of preparation of Methyl orange and explain its uses.
23. What is meant by Hydrogenation of oils and explain its application ?
24. Discuss the double helical structure of DNA.
25. Discuss the hybridisation and stability of Carbocations.
26. Explain Lucas test for differentiating  $1^\circ$ ,  $2^\circ$  and  $3^\circ$  structure of alcohols.

 $(4 \times 5 = 20 \text{ marks})$ **Section D (Essays)***Answer any two questions.**Each carries 10 marks.*

27. Discuss the Primary, Secondary and Tertiary structure of proteins.
28. Write a brief note on :
 

(i) Enantiomers.	(ii) Meso compounds.
(iii) Chirality.	(iv) Conformations of Ethane.
29. (i) Give one method of preparation of  $3^\circ$  Alcohol by using Grignard reagent.  
(ii) Explain Haloform reaction.  
(iii) Compare the acidity of Phenol, P-nitrophenol and Para-methoxy phenol.
30. Write a notes on :
  - (i) Industrial application of cellulose.
  - (ii) Classification of terpenes with examples.
  - (iii) Physiological functions of Nicotine.

 $(2 \times 10 = 20 \text{ marks})$