

(i) Printed Pages :4

Roll No.

(ii) Questions :9

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B.A./B.SC. (General) Ist Semester

1125

CHEMISTRY (Same for B.Sc. Microbial & Food Tech.)

Paper-II: Organic Chemistry-A

Time Allowed : Three Hours]

[Maximum Marks : 22

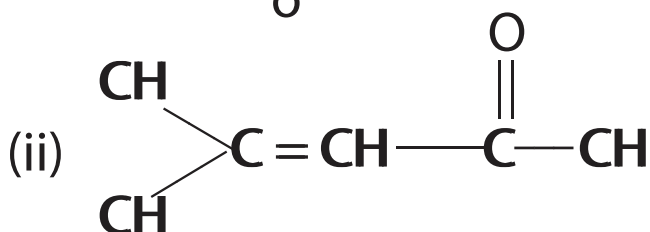
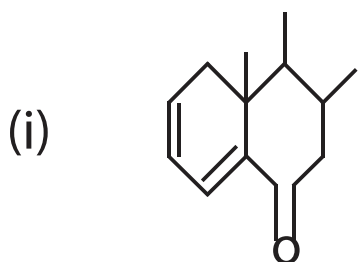
- NOTE :-**
- (i) Attempt **five** questions in all, selecting at least one question from each Unit. Unit-V is compulsory.
 - (ii) Compulsory question carries 6 marks and remaining all questions carry 4 marks.

UNIT-I

1. (a) What is Hydrogen Bonding ? What are the conditions for hydrogen bonding ? 2
- (b) Define Hyperconjugation- Explain greater stability of Propylene as compared to Ethylene. 2
2. (a) What are Carbonations ? Give structure and methods of formation of carbocation. 2
- (b) AlCl_3 behaves as electrophile whereas NH_3 is a nucleophile. Explain 2

UNIT-II

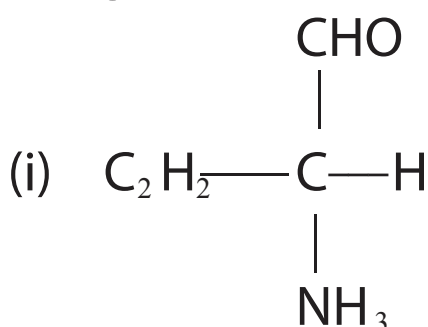
3. (a) Explain the application of u.v spectroscopy in detection of conjugation and determination of configuration of geometrical isomers by examples. 2
- (b) On the basis of woodward fieser rule calculate the for following compounds:

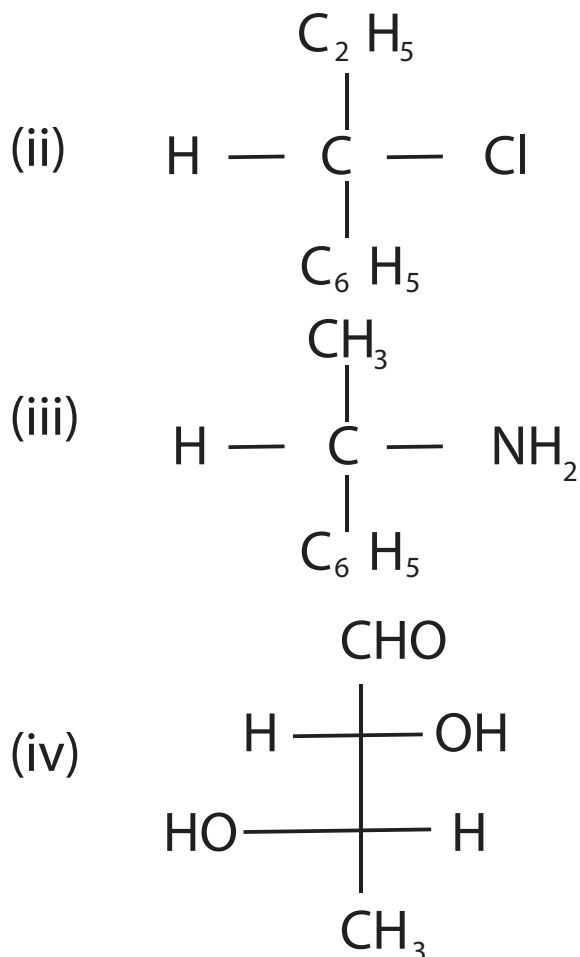


4. (a) The molar Extinction coefficient of $n - \pi^*$ transition is low ($< 10^2$) while $\pi - \pi^*$ transition is high ($10^4 - 10^5$). Explain. 2
- (b) Describe the various types of electronic transition observed in organic compounds when exposed to u.v. and visible light. 2

UNIT-III

5. (a) Assign and S configuration:





2

(b) Distinguish between Enantiomers and Diastereomers.

2

6. (a) Explain the terms with examples

- (i) Optical activity
- (ii) Specific rotation
- (iii) Functional isomerism
- (iv) Stereogenic centre.

2

(b) What is meant by Resolution ? Describe the methods for resolving a racemic mixture.

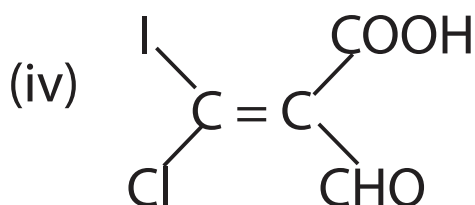
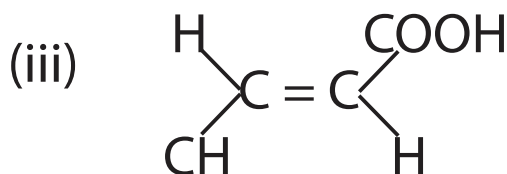
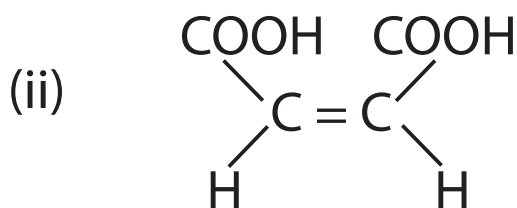
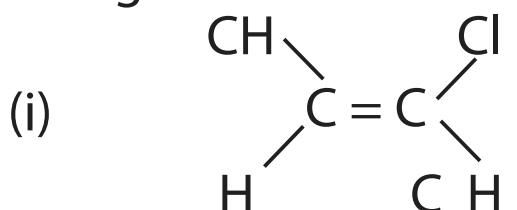
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UNIT-IV

7. (a) Give difference between conformation and configuration.

2

(b) Assign E and Z conformation to the following :



2

8. (a) Write the conformations of n-butane and discuss their relative stabilities. 2
- (b) Give geometrical isomerism of oximes. How is the configuration of geometrical isomers of oximes established? 2

UNIT-V

9. (i) State Huckel's rule of aromaticity.
- (ii) What are nitrenes?
- (iii) Why is Ethanol a solvent of choice in u.v. spectroscopy?
- (iv) What are threocompounds?
- (v) What is meant by walden inversion? Explain with example?
- (vi) Assign E and Z configuration to the following:
- (a) Maleic Acid
- (b) Trans-But-2 enoic Acid

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