

2017

Full Marks : 50

Time : 3 hours

The questions are of equal value

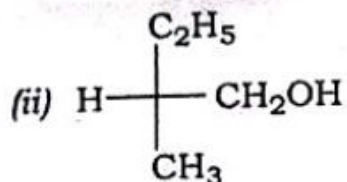
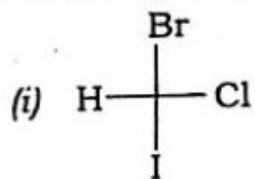
Answer **five** questions, selecting not more than **two** from any Group

Group—A

1. Explain the following :

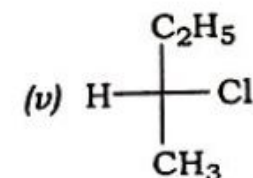
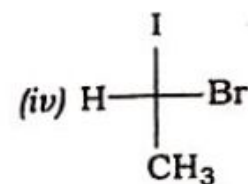
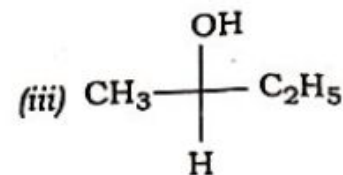
- ~~(a) Asymmetry and dissymmetry~~
 (b) Threo and erythro compound
~~(c) Diastereoisomers.~~

2. (a) Give the R/S configuration of the following compounds :



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(2)



(b) Explain plane of symmetry and center of inversion.

3. Write notes on *any two* of the following :

- (a) Cannizzaro reaction
 (b) Benzoin condensation
 (c) Diazotisation reaction.

4. Write the mechanism of—

- ~~(a) halogenation of benzene;~~
~~(b) sulphonation of benzene.~~

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Group—B

5. (a) Explain osazones formation.

(b) How could you convert—

(i) glucose into fructose;

(ii) fructose into glucose?

6. Write short notes on any two of the following :

~~(a) Ruff degradation~~

(b) Wohl degradation

~~(c) Kiliani-Fischer synthesis.~~

7. How is citric acid prepared? How does it react with—

(i) CH_3COCl

(ii) Conc. HI

(iii) Fuming H_2SO_4 ?

8. How would you prepare benzene diazonium chloride? Starting from benzene diazonium chloride how would you prepare the following?—

~~(a) Iodo benzene~~

~~(b) Phenol~~

~~(c) Azo dye~~

~~(d) Aniline.~~

Group—C

9. How could you test the following functional groups of organic compound?—

(a) Carboxylic group

(b) Ketonic group

(c) Nitro group.

10. Describe the synthetic application of aluminium chloride.

11. Discuss the theory and application of paper chromatography.

12. Write short notes on any two of the following :

(a) Phenol-formaldehyde resins

(b) Urea-formaldehyde resins

(c) Structure of protein

(d) Peptide linkage.
