

17312

13141

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.

Marks

1. Answer any **TEN** of the following: **20**
- a) Define functional group.
 - b) Write structural formula of:
 - i) ethyl acetate
 - ii) acetamide
 - c) Define saturated and unsaturated hydrocarbons. Give one example of each.
 - d) Define vicinal geminal dihalide. Give an example. Where is it used?
 - e) Define alkanes. State two uses of alkanes.
 - f) Distinguish between alcohol and phenol with respective chemical test.
 - g) Write any four physical properties of benzene.
 - h) Write sulphonation reaction of benzene.

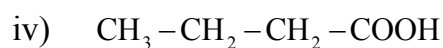
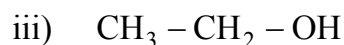
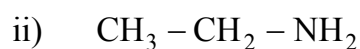
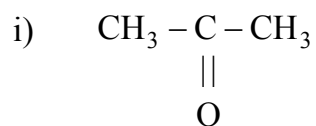
P.T.O.

- i) Write any one method for preparation of benzene.
- j) State the uses of alcohol.
- k) Define pH scale. What does $\text{pH} = 7$, indicate?
- l) Define solutions. Give two examples.

2. Answer any **FOUR** of the following:

16

- a) Give the rules for naming of organic compounds as per IUPAC system.
- b) Indicate functional groups in the following compounds:



- c) Describe Bayer's strain theory.
- d) Define polymerisation. Explain polymerisation of ethylene.
- e)
 - i) Explain acidity of phenol.
 - ii) Why is commercial phenol, a dark coloured liquid ?
- f) Write reaction for preparation of alcohol by hydration of alkenes by using concentrated sulphuric acid.

3. Answer any FOUR of the following:**16**

- a) Distinguish between organic and inorganic compounds.
- b) Explain with an example, pyrolysis in alkanes.
- c) Write preparation of toluene from benzene.
- d) Explain with reaction, bromination of phenol.
- e)
 - i) Define absolute alcohol.
 - ii) Define denatured alcohol. Why is alcohol denatured ? Name a denaturant for alcohol.
- f) Give methods of choosing indicators for acid alkali titration.

4. Answer any FOUR of the following:**16**

- a) Explain with examples, classification of organic compounds on the basis of functional group.
- b) Explain addition of halogens to alkynes.
- c) Explain with reaction, phenol reacting with:
 - i) metallic sodium
 - ii) ammonia.
- d) Differentiate between primary, secondary and tertiary alcohols.
- e) Name simplest alkyne. Write reactions involved in its preparation, starting from calcium carbide.
- f) Why an azeotropic mixture cannot be separated by ordinary distillation ?

5. Answer any FOUR of the following: 16

- a) What is homologous series ? Explain with examples.
- b) Explain Wurtz fitting reaction in relation to preparations of aromatic hydrocarbons.
- c) Write reaction showing action of:
 - i) phosphorus halide
 - ii) potassiumon alcohol.
- d) Explain Quinonoid theory.
- e) Explain nomenclature of alcohols.
- f) Describe with reaction, sulphonation of alkanes.

6. Answer any FOUR of the following: 16

- a) Give preparation of alkanes by Wurtz synthesis.
 - b) Write only reaction involved in hydrogenation of benzene. Name the product formed.
 - c) Give any two methods for preparation of cyclo alkanes.
 - d) Explain the terms:
 - i) ideal solution
 - ii) nonideal solution.
 - e) Why is the vapour pressure of a solution of glucose in water lower than that of water ?
 - f) Explain in general differences between aliphatic and aromatic compounds.
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