

**17312****21314**

3 Hours/100 Marks

Seat No.

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Instructions : (1) **All** questions are **compulsory**.

(2) Illustrate your answers with **neat** sketches **wherever necessary**.

(3) Figures to the **right** indicate **full** marks.

(4) Assume **suitable data**, if necessary.

(5) **Use** of non-programmable Electronic Pocket Calculator is permissible.

MARKS

1. Attempt **any ten** of the following :

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- a) Define functional group. Give 2 examples.
- b) Define homologous series.
- c) What are paraffins ? Why are they called so ?
- d) What is Grignard reagent ?
- e) Give the uses of alkanes.
- f) What is aromaticity ? Give two examples of aromatic compounds.
- g) Give the uses of phenol.
- h) What is Friedal Craft's reaction ?
- i) How are phenols classified ?
- j) Explain primary, secondary and tertiary alcohols.
- k) State Raoults law.
- l) What is an indicator ? Give examples.

P.T.O.



MARKS
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2. Attempt **any four** of the following :

a) Draw the structural formula of :

- i) Ethyl methyl ketone
- ii) 4, 5-dimethyl-1-heptanol
- iii) 2-ethyl-5-methyl hexanoic acid
- iv) 3-ethyl-4-nitrohexane.

b) Give the rules for nomenclature of branched chain hydrocarbons with suitable examples.

c) State and explain any two methods of preparation of alkenes.

d) Explain modified Baeyer's strain theory.

e) Explain the preparation of benzene from acetylene and phenol.

f) Give the action of following on ethanol :

- i) Acetic acid
- ii) Sodium metal
- iii) Hydrochloric acid
- iv) Phosphorous pentachloride.

3. Attempt **any four** of the following :

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a) Write the formula of functional groups for the following classes of organic compounds :

- i) Aldehydes
- ii) Esters
- iii) Amines
- iv) Ethers.

b) What is the action of ozone on alkenes ? How it helps in identifying the alkene ?

c) What is the action of sulphuric acid and nitric acid on benzene ?

d) What is the action of Bromine and Bromine water on phenol ?

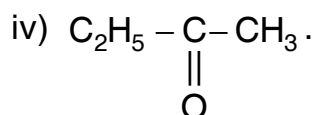
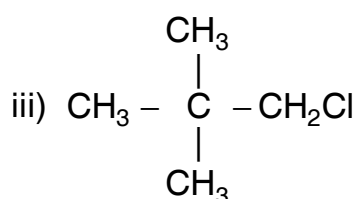
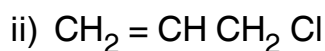
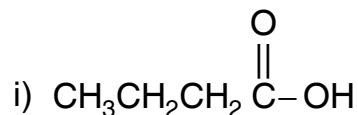
e) Explain isomerism in alcohols.

f) Explain quinonoid theory.



4. Attempt **any four** of following :

a) Give IUPAC names of :



b) Explain the structure of ethane.

c) Explain the following with reaction. i Action of ammonia and methyl chloride on phenol.

d) Differentiate between alcohol and phenols based on chemical test.

e) Explain the colour change using phenolphthalein indicator based on Ostwalds ionisation theory.

f) Differentiate between an ideal and non-ideal solution.

5. Attempt **any four** of the following :

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a) How organic compounds are classified ? Give examples each.

b) Explain Raschig process. Write the physical properties of phenol.

c) With an example explain the action of alcohol and Grignard reagent.

d) Define solution. State four types of solutions with examples.

e) Explain minimum boiling azeotrope with example.

f) Give two methods of preparation of acetylene with explanation and reaction.



MARKS

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6. Attempt **any four** of the following :

- a) What is the action of :
 - i) Chlorine and
 - ii) Hydrogen bromide on cyclo propane ?
 - b) Explain the structure of benzene.
 - c) What is Markovnikov's rule ? Explain with reaction between acetylene and hydrogen bromide.
 - d) Explain theory of hydrogen ion indicator with suitable example.
 - e) How vapour pressure of solvent is lowered by addition of non-volatile solute ?
 - f) What is the difference between aliphatic and aromatic compounds ?
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