



17221

21314

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) Mobile Phone, Pager and any other Electronic Communication devices are **not permissible** in Examination Hall.

MARKS

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

20

- Define homologous series with example.
- Define saturated and unsaturated hydrocarbons.
- Name the types of organic reaction.
- Define nucleophile and electrophile.
- Write two uses of alkanes with related properties.
- What is meant by de-hydrohalogenation ? Give its one reaction.
- Define alcohol. Name and write structure of lowest member of alcohol series.
- State two uses of ethanol.
- Define aldehydes and ketones.
- State two properties and uses of acetone.
- Write IUPAC names of following compounds.
 - HCOOH
 - $\text{CH}_3\text{CH}_2\text{COOH}$
- Classify proteins depending on chemical composition with suitable examples.

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

16

- State characteristics of organic compounds.
- Classify organic compounds on the basis of its structure with one example.
- State type of reactions with suitable chemical reaction.
- What are the terms carbocation and carbanion ?
- Give the mechanism of SN_1 reaction.
- Write reaction of SN_2 with its mechanism.

P.T.O.



MARKS

3. Attempt **any four** of the following : 16
- a) Write two methods of preparation of alkanes with chemical reaction.
 - b) Give pyrolysis and halogenation reaction of alkanes.
 - c) How alkenes are prepared by dehydration of alcohols and thermal cracking ?
 - d) Write preparation methods of alkynes by dehydrohalogenation and action of water on metallic carbide.
 - e) Write nitration and sulphonation reactions of alkanes.
 - f) Write Wurtz reaction and Kolbe's synthesis.
4. Attempt **any four** of the following : 16
- a) Give the reaction of halogens and haloacids on alkenes.
 - b) Write the reactions of halogen and water on alkynes.
 - c) Write classification of alcohol with example.
 - d) What do you mean by methylated spirit and power alcohol ?
 - e) How ethyl alcohol is prepared on technical scale from ethylene ?
 - f) Write two methods of preparation of glycol.
5. Attempt **any four** of the following : 16
- a) How aldehydes are obtained from ethyl alcohol and acetylene ?
 - b) Write the reactions when Grignard reagent and ammonia is added to aldehyde.
 - c) What do you mean by Tollen's reagent ? What is the reaction taking place on aldehyde ?
 - d) How acetone is prepared from isopropyl alcohol and acetylene ?
 - e) Write two methods of preparation of carboxylic acids.
 - f) Write the reaction when acetic acid is obtained from hydrolysis of cyanides and Grignard's reagent.
6. Attempt **any four** of the following : 16
- a) Write the reaction taking place when acetic acid reacts with alkali and phosphorous halide.
 - b) How is paraffin and amides obtained from acetic acid ?
 - c) Write the effect of heat and KOH on oxalic acid with chemical reaction.
 - d) What are amino acids ? Write about its dipolar nature. Give its two examples.
 - e) State two chemical properties of amino acids with the reaction.
 - f) What are proteins ? Classify it on basis of molecular shape with example.
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