

17221

21819

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

Marks

1. Attempt any TEN of the following :

20

- (a) Define homologous series with example.
- (b) Define nucleophile and electrophile.
- (c) State two properties and uses of acetone.
- (d) Define absolute alcohol.
- (e) State two uses of ethanol.
- (f) Write IUPAC names of following compounds :
 - (i) HCOOH
 - (ii) $\text{CH}_3\text{CH}_2\text{COOH}$

- (g) What are α amino acids ?
- (h) Distinguish between aldehydes and ketones.
- (i) What are alkanes ? Write the general reaction and structural formula for alkanes.
- (j) Define saturated and unsaturated hydrocarbons.
- (k) Explain breaking and formation of bonds in organic reaction.
- (l) Define alkenes. Write any two rules for their nomenclature.

2. Attempt any FOUR of the following :

16

- (a) Write reaction of S_N2 with its mechanism.
- (b) Classify organic compounds on the basis of its structure with one example.
- (c) State characteristics of organic compounds.
- (d) Explain the meaning of carbocation and carbanion with one example of each.
- (e) Explain Wurtz Synthesis with suitable chemical reaction.
- (f) Write any two laboratory methods of preparation of formaldehyde.

3. Attempt any FOUR of the following :

16

- (a) How acetone is prepared from isopropyl alcohol and acetylene ?
- (b) Write two methods of preparation of carboxylic acids.

- (c) Give the mechanism of S_N1 reaction.
- (d) What is the action of Acetaldehyde on Tollen's reagent ?
- (e) Write the reaction when acetic acid is obtained from hydrolysis of Cyanides and Grignard's reagent.
- (f) Write the reaction when Grignard reagent and ammonia is added to aldehyde.

4. Attempt any FOUR of the following :

16

- (a) Write two methods of preparation of alkanes with chemical reaction.
- (b) Write two methods of preparation of Glycol.
- (c) Write the effect of heat and KOH on Oxalic acid with chemical reaction.
- (d) Write the reaction taking place when acetic acid reacts with alkali and phosphorous halide.
- (e) What do you mean by methylated spirit and power alcohol ?
- (f) Describe with an example pyrolysis of alkanes.

5. Attempt any FOUR of the following :

16

- (a) Write classification of alcohol with example.
- (b) How is paraffin and amides obtained from acetic acid ?
- (c) How alkenes are prepared by dehydration of alcohols and thermal cracking ?

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- (d) State IUPAC rules of naming Alkanes.
- (e) State chemical properties of ethanol.
- (f) What are proteins ? How are they classified ?

6. Attempt any FOUR of the following :

16

- (a) Write preparation methods of alkynes by dehydrohalogenation and action of water on metallic carbide.
 - (b) Write Nitration and Sulphonation reactions of alkanes.
 - (c) State two chemical properties of amino acids with the reaction.
 - (d) What are amino acids ? Write about its dipolar nature. Give its two examples.
 - (e) Write the reactions of halogen and water on alkynes.
 - (f) Give the reaction of halogens and haloacids on alkenes.
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