

17221

11819

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

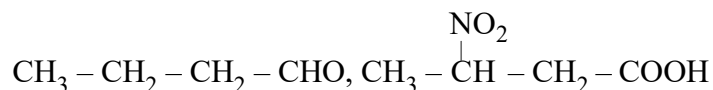
- (a) What are homologous series ?
- (b) State any two characteristics of carbon compounds.
- (c) Define nucleophile and electrophile with one example.
- (d) Name the type of organic reactions.
- (e) Write two physical properties of alkane.
- (f) State two uses of alkene.
- (g) Give general formula of alkynes and the structure of ethyne.
- (h) Define absolute alcohol and methylated spirit.
- (i) Write two uses of ethanol.
- (j) Give the IUPAC name of the following structure :



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P.T.O.

- (k) Name the functional group of following compounds :



- (l) What are amino acids ? Give one example.

2. Attempt any FOUR of the following :

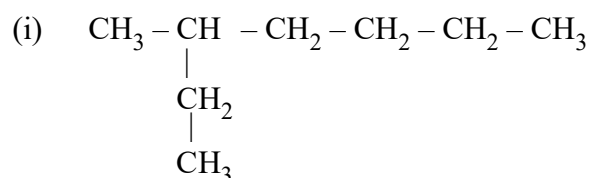
16

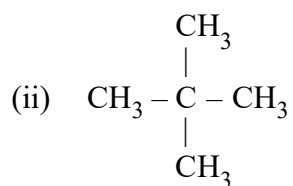
- (a) Write the classification of organic compounds on the basis of structure.
- (b) State the characteristics of homologous series.
- (c) What do you mean by carbocation and carbanion ? Illustrate with example.
- (d) Write the mechanism of $\text{S}_{\text{N}}1$ reaction with example.
- (e) Define elimination reaction. Give its suitable chemical reaction.
- (f) Give the mechanism of $\text{S}_{\text{N}}2$ reaction with example.

3. Attempt any FOUR of the following :

16

- (a) Write methods of preparation by Wurtz synthesis and reduction of alkyl halides.
- (b) Give the halogenation reactions of alkanes.
- (c) Name the following alkanes by IUPAC nomenclature :





- (d) Write structural and electronic formula of ethylene.
- (e) How alkenes are prepared by dehydration of alcohols and dehydrohalogenation ?
- (f) What will be the action when haloacids and halogens are added to alkene ?

4. Attempt any **FOUR** of the following :

16

- (a) What is the structural formula of ethyne and write its preparation by dehydrohalogenation.
- (b) Write the reaction when sulphuric acid and chlorine is added to acetylene.
- (c) What are alcohols ? How are they classified ?
- (d) Give the preparation of ethanol :
- (i) from ethylene
- (ii) by reduction of acetaldehyde
- (e) What will be the reaction take place when sulphuric acid and phosphorus halides are added to ethanol ?
- (f) State two preparation methods of ethylene glycol.

P.T.O.

5. Attempt any FOUR of the following :**16**

- (a) Write the reaction of hydrogen chloride and carboxylic acid on glycol.
- (b) Give the preparation of following :
 - (i) formaldehyde from methanol
 - (ii) Acetaldehyde from acetylene
- (c) Write the reactions :
 - (i) formaldehyde with ammonia
 - (ii) Acetaldehyde with Fehling's solution.
- (d) How dimethyl ketone is prepared from (i) isopropyl alcohol and (ii) acetic acid ?
- (e) Write physical properties and applications of acetone.
- (f) Write two preparation methods of acetic acid.

6. Attempt any FOUR of the following :**16**

- (a) Write the reaction :
 - (i) Acetic acid reacts with phosphorus halides.
 - (ii) Formation of amide from acetic acid.
 - (b) Give two preparation methods of oxalic acid.
 - (c) What is the action of heat and KOH on oxalic acid ?
 - (d) What are amino acids ? Classify it.
 - (e) Write two chemical properties of amino acids with reaction.
 - (f) Define proteins. Classify it by chemical composition.
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