

22241

21222

3 Hours / 70 Marks

Seat No.

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15 minutes extra for each hour

- 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. Answer any FIVE of the following: 10

a) Identify the functional group in the following compound.

(i) Acetone

(ii) Ethyl alcohol

b) Define homolytic bond fission with an example.

c) State four important uses of alkenes.

d) Draw the electronic structure of propyne.

e) Name and classify the following alcohol.

(i) $C_2H_5 - CH_2 - CH_2 - OH$

(ii)
$$\begin{array}{c} CH_3 \\ | \\ CH_3 - C - OH \\ | \\ CH_3 \end{array}$$

P.T.O.

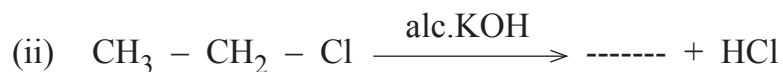
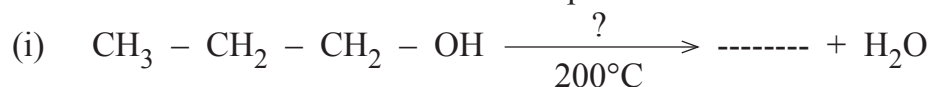
- f) Write composition and uses of Tollen's reagent.
- g) Give common name and IUPAC name of the following carboxylic acid.
- (i) H-COOH
- (ii) CH₃ - CH₂ - COOH

2. Answer any THREE of the following: 12

- a) Classify organic compounds on the basis of their functional group.
- b) Distinguish between SN¹ and SN² reaction.
- c) Explain Wurtz synthesis with chemical reaction.
- d) Write oxidation reaction of primary alcohol and secondary alcohol.

3. Answer any THREE of the following: 12

- a) Complete the following reaction. Identify the type of organic reaction. Give name of reactant and product.

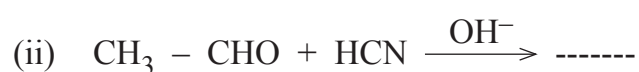
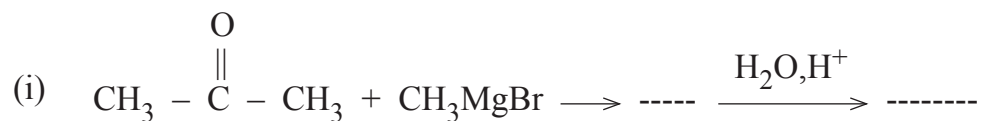


- b) Explain pyrolysis and nitration with respect to ethane.
- c) Define the following
- (i) Alcohol
- (ii) Absolute alcohol
- (iii) Power alcohol
- (iv) Mythylated spirit
- d) Describe the method of preparing aldehyde from ethyl alcohol and acetylene.

4. Answer any THREE of the following:

12

- a) Explain dehydrohalogenation of alkyl - halides with chemical reaction.
- b) Complete the following reaction. Identify name of reactant and product.



- c) Two inorganic reagent is given below. Identify the product if these reagent react with carboxylic acid. Give supporting chemical reactions for same.



- d) Describe esterification reaction of acetic acid. How is the forward reaction favoured ?
- e) Explain mechanism of SN^2 reaction. Draw energy profile diagram.

5. Answer any TWO of the following:

12

- a) Explain Homologous series with examples.
- b) (i) Describe 'quick' vinegar process.
(ii) Explain decarboxylation of malonic acid.
- c) Explain chemical properties and uses of acetone.

6. Attempt any TWO of the following:

- a) Explain preparation method of ethylene by
 - (i) Dehydration of alcohol.
 - (ii) Catalytic cracking.
 - b) Give the following supporting chemical reaction condition and predict the product.
 - (i) Methanol reacts with sodium.
 - (ii) Ethyl alcohol reacts with hydrogen chloride.
 - (iii) n-propyl alcohol is dehydrated by heating with 60% H_2SO_4 at 373k.
 - c) Describe -
 - (i) elimination reaction
 - (ii) rearrangement reaction
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