

<b>CHEMISTRY-12</b>	<b>Chapter # 10 (Complete) Test: C-2</b>		
	Name:	Class:	ID:
Date: / /	<b>Marks Total: 40</b>	<b>Marks Obtained:</b>	
Time Allowed: 75 Min.			

Maximum Marks: 08      **(OBJECTIVE TYPE)**      Time Allowed: 15 Min.

**NOTE:** Tick The Correct Option:

- When  $\text{CO}_2$  is made to react with ethyl magnesium iodide, followed by acid hydrolysis, the product formed is:
  - Propane
  - Propanoic acid
  - Propanal
  - Propanol
- The rate of E1 reaction depends upon:
  - The concentration of substrate
  - The concentration of nucleophile
  - The concentration of substrate as well as nucleophile
  - None of the above
- Which one of the followings is the best nucleophile?
  - $\text{H}_2\text{O}$
  - $\text{NH}_3$
  - $\text{C}_2\text{H}_5\text{O}^-$
  - NO
- 2-Chloro-3-methylbutane is a \_\_\_\_\_ alkyl halide.
  - Primary
  - Secondary
  - Tertiary
  - All
- Alkyl iodides can not be prepared by the direct combination of alkanes with iodine because:
  - The product is unstable
  - The reaction is reversible
  - The reaction is highly exothermic
  - Both 'a' & 'b'
- Electrophiles may be:
  - Positively charged
  - Negatively charged
  - Neutral
  - Both 'a' & 'c'
- In  $\text{S}_{\text{N}}1$  reactions, the product shows \_\_\_\_\_ of configuration.
  - 50% inversion
  - 50% retention
  - 100% inversion
  - Both 'a' & 'b'
- The reaction of ethyl bromide with sodium in ether to form butane is called:
  - Dow's method
  - Williamson's synthesis
  - Strecker's synthesis
  - Wurtz synthesis

Maximum Marks: 32      **(SUBJECTIVE TYPE)**      Time Allowed: 60 Min.

### SECTION-I

Q.2: Give brief answers to the following questions:

(20)

- i. What are primary and tertiary alkyl halides. Give one example each.
- ii. Give one method for the preparation of alkyl iodides.
- iii. Name two factors which govern the reactivity of R-X bond.
- iv. Define leaving group and substrate.
- v. Give four characteristics of  $S_N2$  reactions in alkyl halides.
- vi. Give mechanism of  $S_N1$  reactions.
- vii. Convert: (a)  $C_3H_7Cl \rightarrow CH_3-CH=CH_2$  (b)  $C_3H_7Cl \rightarrow CH_3-CH_2-CH_2-OH$
- viii. Write reaction to prepare tetraethyl lead and nitro ethane from alkyl halide.
- ix. How can primary and secondary alcohols be prepared from Grignard reagent?
- x. How can you convert  $CH_3-CH_2-Br$  into  $CH_3-CH_2-CH_2-CH_2-OH$ ?

## SECTION-II

**NOTE:** Attempt All Questions:

(12)

Q.3: Define  $\beta$ -elimination reactions? Discuss in detail  $E_1$  reactions with mechanism.

Q.4: Prepare the following compounds from  $CH_3-CH_2-Cl$ :

(i) Ethyl amine (ii) Ethyl acetate (iii) Butane (iv) Tetraethyl lead?

Q.5: How will you prepare the following compounds starting from ethyl magnesium bromide?

(i) Alkane (ii) Carboxylic acid (iii) 2-Butanol (iv) 1-Butanol