Please read following **SHORT WRITE UP** and **ANSWER** subsequent questions :

Grignard reagents (organomagnesium halides) wre discovered by the French chemist Victor Grignard in 1900. He was awarded the Nobel Prize for his discovery in 1912.

Grignard reagents behave as if they were carbanions. They have extensive use in organic synthesis. They are usually prepared by reacting an organic halide with magnesium in an anhydrous ether solvent as follows.

$$RX + Mg \rightarrow R\,MgX$$

Where R is a suitable organic group and X is I, Br or Cl.

Q.1 Grignard reagents are

I. Strong acids
II. Strong bases
III. Strong electrophiles
IV. Strong nucleophiles

(A) I is corect
(B) II is correct
(C) I and III are correct
(D) II and IV are correct.

Q.2 In the preparation of a Grignard reagent, the reason why the ether solvent must be anhydrous is that.

(A) Hydrogen ions from any water present would immediately react with any Grignard reagent produced.
(B) Grignard reagents are insoluble in water.
(C) Water is necessary for Grignard reagents to ionize.
(D) Water is the universal solvent.

Q.3 Which of the following are suitable organic reactants for synthesizing Grignard reagents ?

I. C_3H_7I **II. CH_3OCH_2Br**
III. $HSCH_2CH_2I$ **IV. CH_3COCH_2Br**
(A) I and II (B) II and III
(C) III and IV (D) I and IV

Q.4 One of the products of the reaction between propylmagnesium bromide and ethyne is-

(A) 1-pentyne (B) Propane
(C) 1-pentene (D) Propene

Q.5 A tertiary alcohol can be ultimately formed most directly by reacting a Grignard reagent with

(A) Methanal
(B) An aldehyde with at least two carbon atoms
(C) A ketone
(D) A carboxylic acid

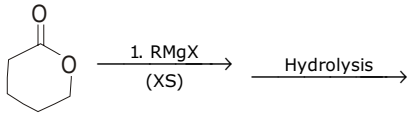
Q.6 One of the products of the reaction between an ester and twice as many moles of a Grignard reagent followed by the addition of dilute acid is-

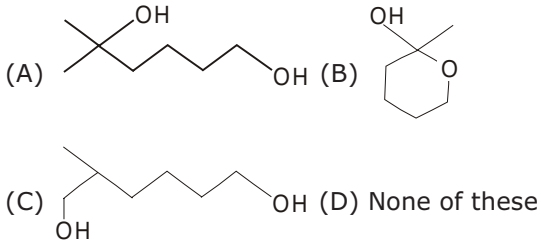
(A) A primary alcohol (B) A secondary alcohol
(C) A tertiary alcohol (D) Another ester.

Q.7 One of the products of the reaction below is

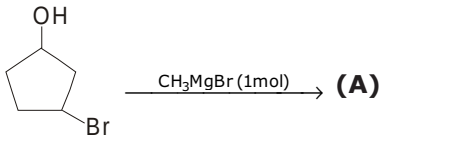
(A) 1-pentanol (B) 2-pentanol
(C) Ethyl propyl ether (D) Pentanoic acid

Q.8 What is the product of following reaction-

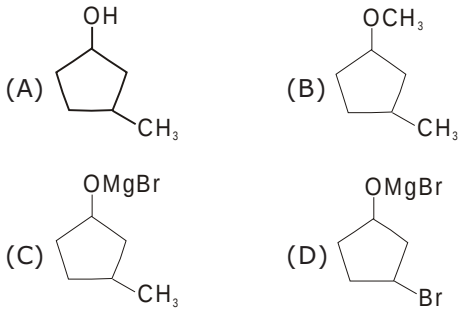




Q.9



(A) is-



CHEMISTRY IIT JEE (CLASS TEST - 6) (ORGANIC) ANSWER KEY

Name : ..... Date : .....

	A	B	C	D	E		A	B	C	D	E		A	B	C	D	E
1	○	○	○	○	○	4	○	○	○	○	○	7	○	○	○	○	○
2	○	○	○	○	○	5	○	○	○	○	○	8	○	○	○	○	○
3	○	○	○	○	○	6	○	○	○	○	○	9	○	○	○	○	○