7 GRIGNARD REAGENT

[JEE-MAIN / AIEEE]

1. Which of these will not react with acetylene? **[AIEEE-2002]**

(A) NaOH (B) ammonical $AgNO_3$ (C) Na (D) HCl

2. $CH_3 - Mg - Br$ is an organo metallic compound due to **[AIEEE-2002]**

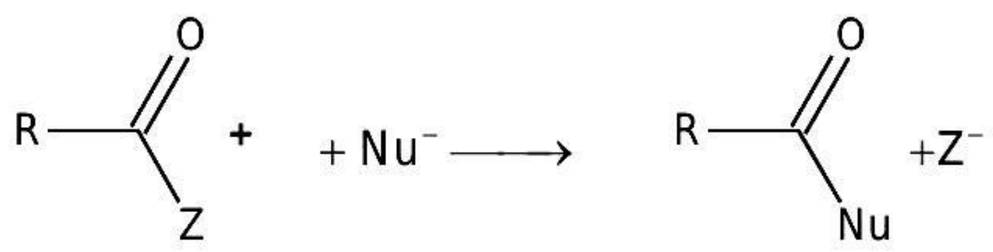
(A) Mg – Br bond (B) C – Mg bond (C) C – Br bond (D) C – H bond

3. Ethyl isocyanide on hydrolysis in acidic medium generates **[AIEEE-2003]**

(A) ethylamine salt and methanoic acid (B) propanoic acid and ammonium salt

(C) ethanoic acid and ammonium salt (D) methylamine salt and ethanoic acid

4. Rate of the reaction **[AIEEE-2004]**



is fastest when Z is **[AIEEE-2004]**

(A) Cl (B) $OCOCH_3$ (C) OC_2H_5 (D) NH_2

5. Acetyl bromide reacts with excess of CH_3MgI followed by treatment with a saturated solution of NH_4Cl given **[AIEEE-2004]**

(A) acetone (B) acetyl iodide

(C) 2- methyl -2- propanol (D) acetamide

6. Phenyl magnesium bromide reacts with methanol to give **[AIEEE-2006]**

(A) a mixture of anisole and Mg(OH)Br (B) a mixture of benzene and Mg(OMe)Br

(C) a mixture of toluene and Mg(OH)Br (D) a mixture of phenol and Mg(Me)Br

7. In the following sequence of reactions, **[AIEEE-2007]**

$$CH_3CH_2OH \xrightarrow{P+I_2} A \xrightarrow[ether]{Mg} B \xrightarrow{HCHO} C \xrightarrow{H_2O} D$$

the compound 'D' is:

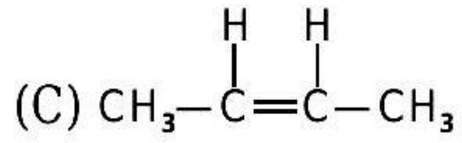
(A) butanal (B) n-butyl alcohol (C) n-propyl alcohol (D) propanal

8. Which one of the following is the strongest base in aqueous solution? **[AIEEE-2007]**

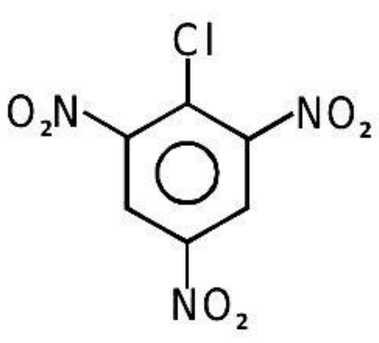
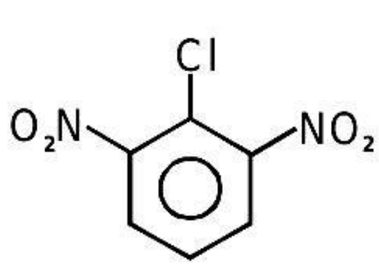
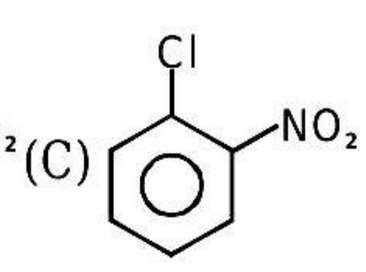
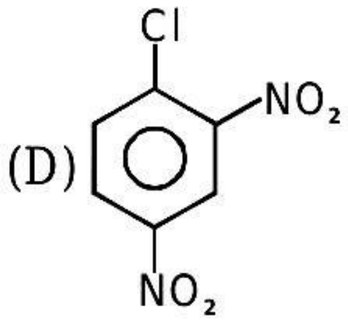
(A) Trimethylamine (B) Aniline (C) Dimethylamine (D) Methylamine

9. The treatment of CH_3MgX with $CH_3C \equiv C-H$ produces **[AIEEE-2008]**

(A) $CH_3 - CH = CH_2$ (B) $CH_3C \equiv C - CH_3$

(C)  (D) CH_4

10. A major component of Borsch reagent is obtained by reacting hydrazine hydrate with which of the following? **[IIT Mains Online 2013]**

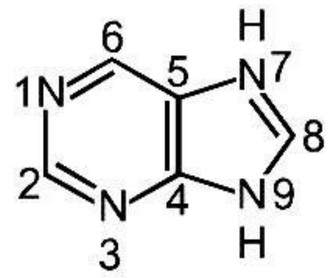
(A)  (B)  (C)  (D) 

11. The hydrocarbon with seven carbon atoms containing a neopentyl and a vinyl group is : **[IIT-JEE Mains (online) 2016]**

(A) 2, 2-dimethyl-4-pentane (B) 4, 4-dimethylpentene

(C) Isopropyl-2-butene (D) 2, 2-dimethyl-3-pentene

12. The "N" which does not contribute to the basicity for the compound is : **[IIT-JEE Mains (online) 2016]**

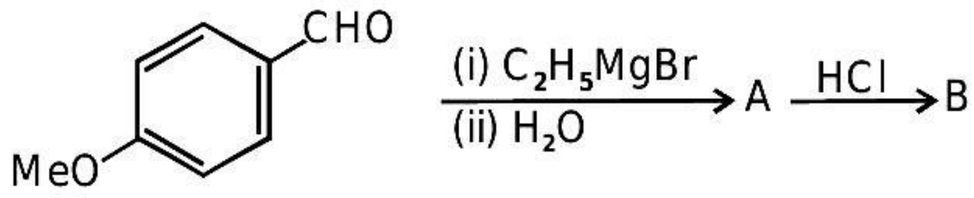


(A) N7 (B) N1 (C) N9 (D) N3

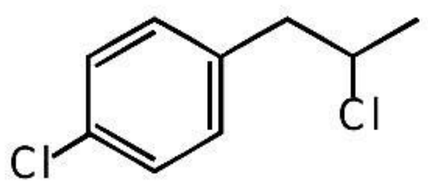
13. The gas evolved on heating CH_3MgBr in methanol is **[JEE Mains (online) 2016]**

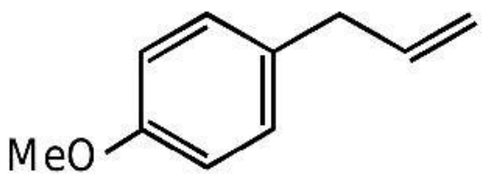
(A) Methane (B) Ethane (C) Propene (D) HBr

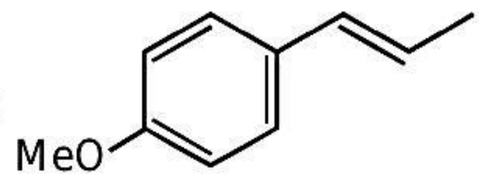
14. The major product B formed in the following reaction sequence is **[JEE Main (online) 2018]**



(A) 

(B) 

(C) 

(D) 

[JEE-ADVANCED]

1. Write the structural formula of main organic product formed when ethyl acetate is treated with double the molar quantity of methyl magnesium bromide and the reaction mxiture is poured into water. **[JEE 1981]**

2. Identify the major product. **[JEE 1993]**

$C_6H_5COOH + CH_3MgI \longrightarrow \ ? + ?$

3. Predict the major product. **[JEE 1994]**

$$C_6H_5\text{-}\ CH_2COCH_3 \xrightarrow[(ii)\,H^+]{(i)\,CH_3MgBr\,(excess)}$$

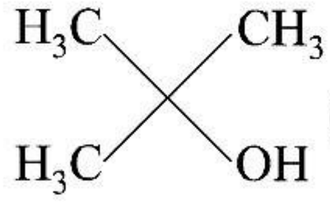
4. Which of the following is an organometallic compound? **[JEE 1997]**

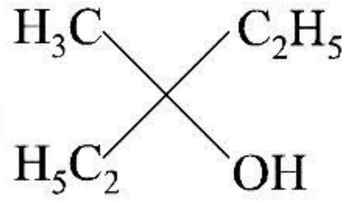
(A) Lithium methoxide (B) Lithium acetate
(C) Lithiumdimethylamide (D) Methyl lithium

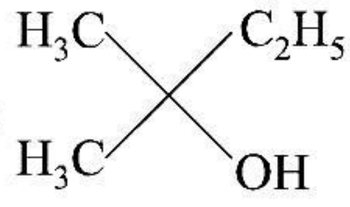
5. $(CH_3)_3CMgCl$ on treatment with D_2O produces **[JEE 1997]**

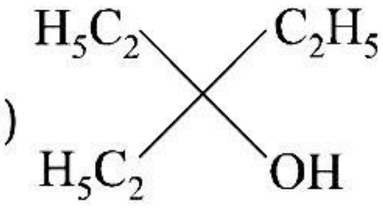
(A) $(CH_3)_3CD$ (B) $(CH_3)_3COD$ (C) $(CD)_3CD$ (D) $(CD)_3COD$

6. $\underset{\text{Ethyl ester}}{C_4H_8O_2} \xrightarrow[(excess)]{CH_3MgBr}$ P, the product 'P' will be **[JEE 2003]**

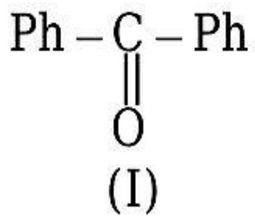
(A) 

(B) 

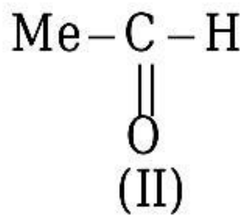
(C) 

(D) 

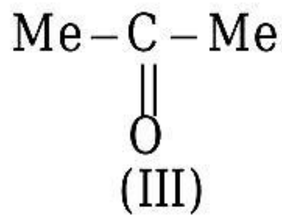
7. Order of rate of reaction of following compounds with phenyl magnesium bromide is: **[JEE 2004]**



(I)

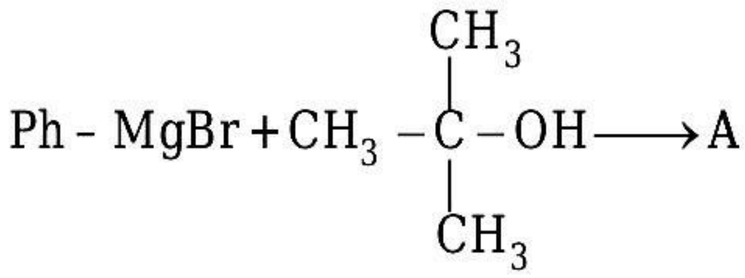


(II)

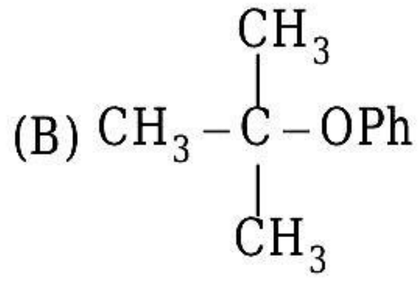


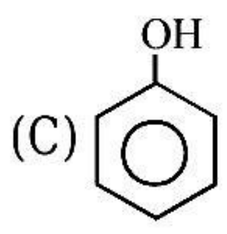
(III)

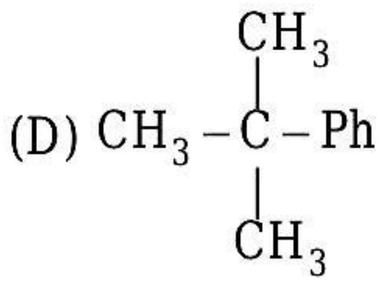
(A) I > II > III (B) II > III > I (C) III > I > II (D) II > I > III

8.  **[JEE 2005]**

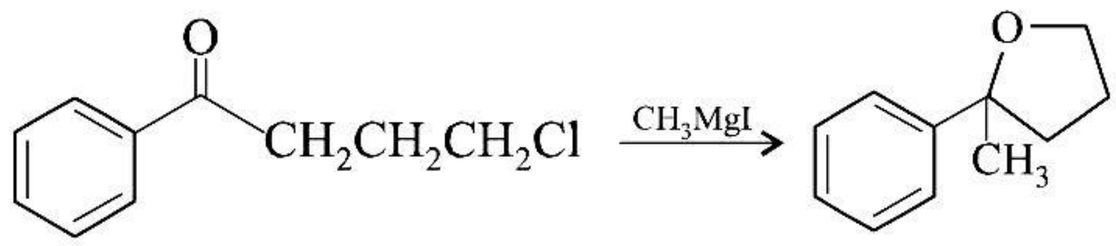
(A) 

(B) 

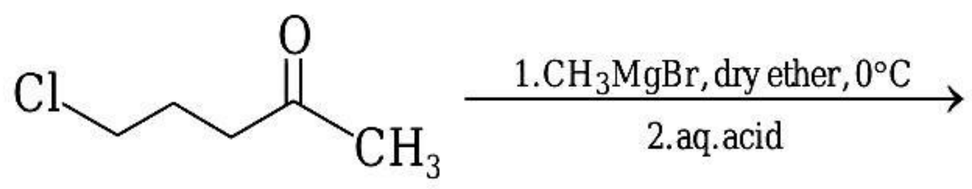
(C) 

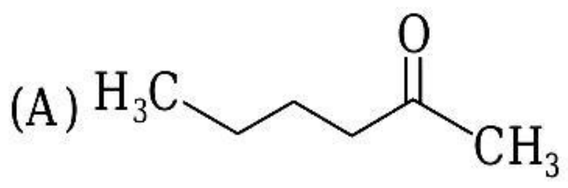
(D) 

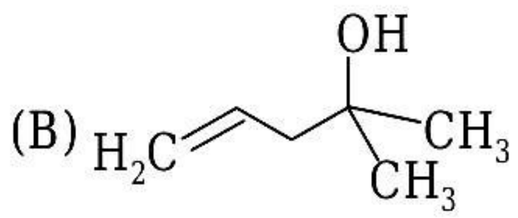
9. Identify the reaction mechanism : **[JEE 2011]**

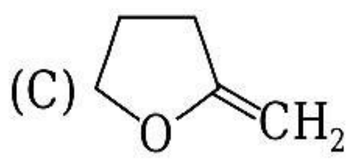


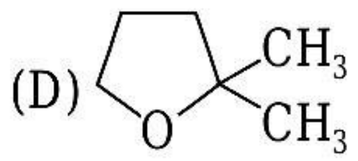
10. The major product in the following reaction is **[JEE Advance 2014]**



(A) 

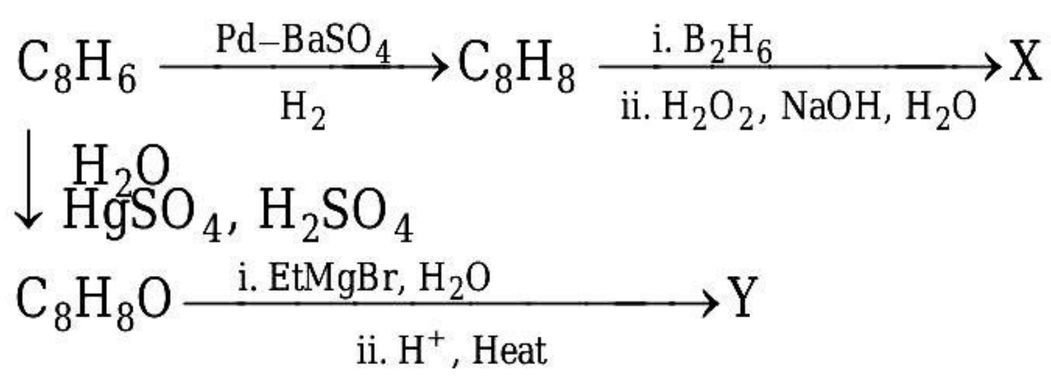
(B) 

(C) 

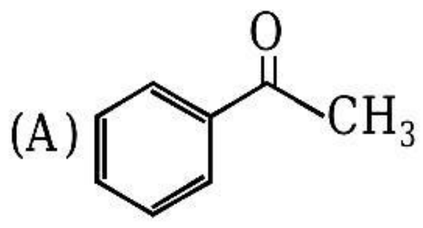
(D) 

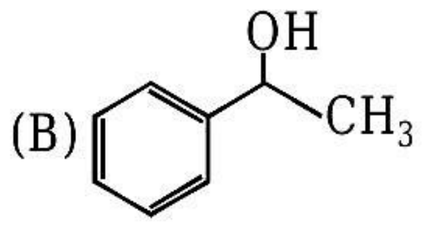
Paragraph for question nos. 11 & 12

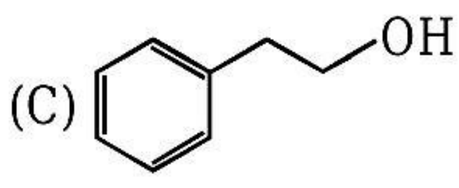
In the following reactions : **[JEE Advance 2015]**

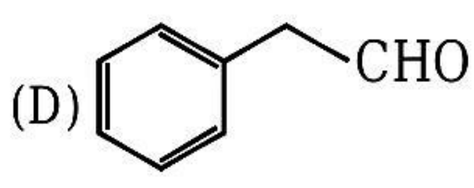


11. Compound X is

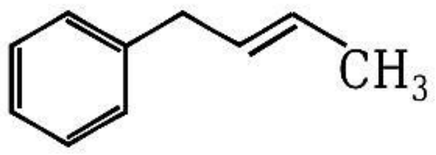
(A) 

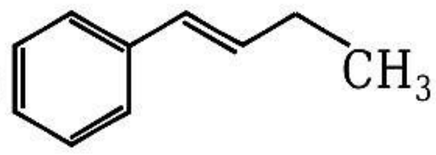
(B) 

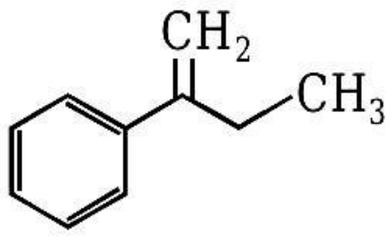
(C) 

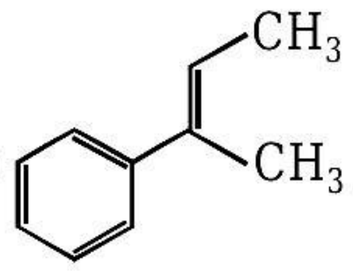
(D) 

12. The major compound Y is

(A) 

(B) 

(C) 

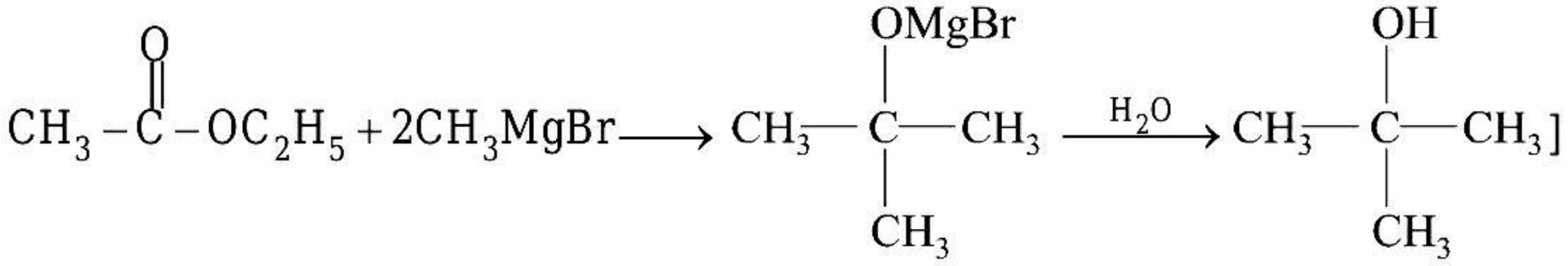
(D) 

ANSWER KEY

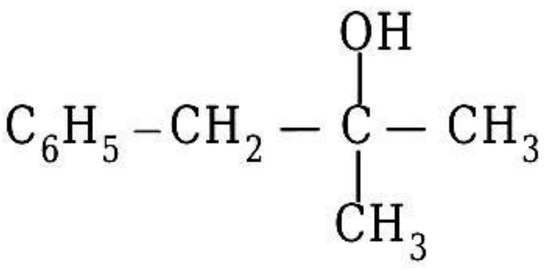
[JEE-MAIN/AIEEE]

1.	A	**2.**	B	**3.**	A	**4.**	A	**5.**	C	**6.**	B	**7.**	C
8.	C	**9.**	D	**10.**	D	**11.**	B	**12.**	C	**13.**	A	**14.**	A

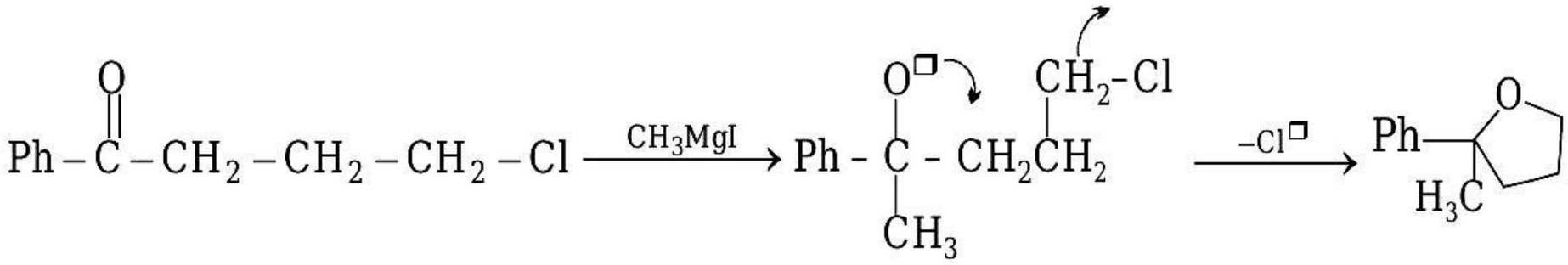
[JEE-ADVANCED]

1. 

2. $C_6H_5COO^- Mg I + CH_4$

3. 

4. D **5.** A **6.** A **7.** B **8.** A

9. 

10. D **11.** C **12.** D