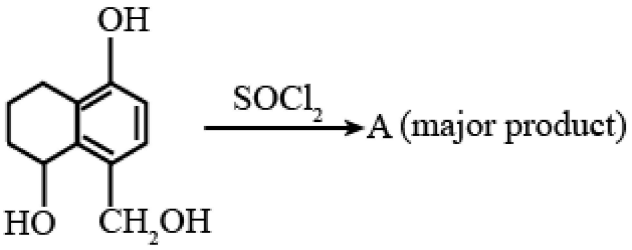
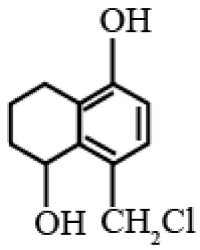
Halo compounds + Compounds containing Oxygen

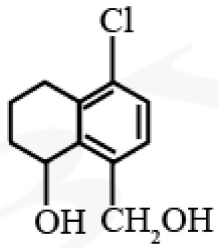
1. Identify A in the given reaction,



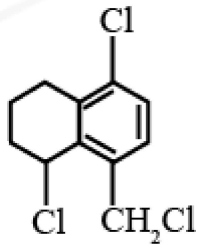
A.



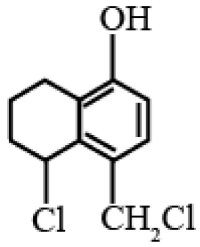
B.



C.

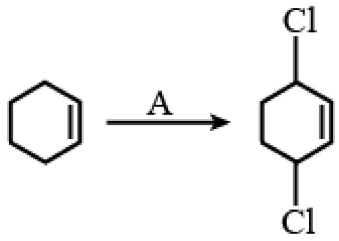


D.



Halo compounds + Compounds containing Oxygen

2.



Identify the reagent(s) 'A' and condition(s) for the reaction.

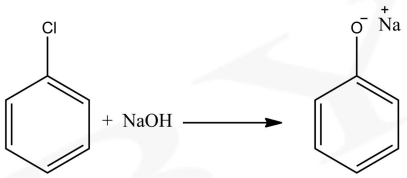
A. $A = HCl$; $Anhydrous\ AlCl_3$

B. $A = Cl_2$; $UV\ light$

C. $A = Cl_2$; $dark,\ Anhydrous\ AlCl_3$

D. $A = HCl,\ ZnCl_2$

3.



The above reaction requires which of the following reaction condition?

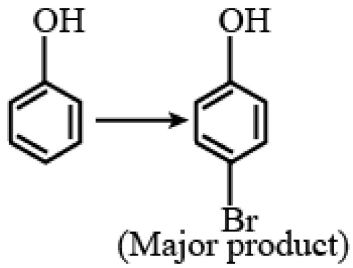
A. $573\ K,\ 300\ atm$

B. $623\ K,\ Cu,\ 300\ atm$

C. $573\ K,\ Cu,\ 300\ atm$

D. $623\ K,\ 300\ atm$

Halo compounds + Compounds containing Oxygen

4. 

(Major product)

The given reaction can occur in the presence of

(a) Bromine water

(b) Br_2 in $CS_2,\ 273\ K$

(c) $Br_2/FeBr_3$

(d) Br_2 in $CHCl_3,\ 273\ K$

Choose the correct answer from the options given below

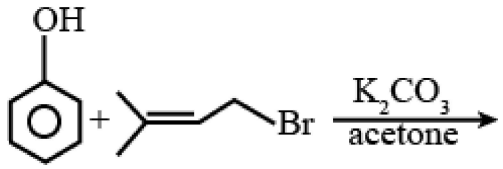
A. (a) and (c) only

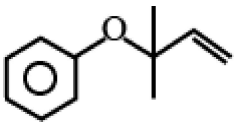
B. (a), (b) and (d) only

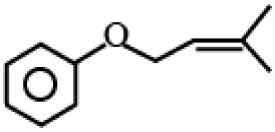
C. (b) and (d) only

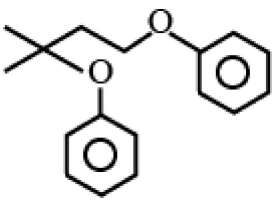
D. (b), (c) and (d) only

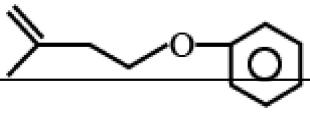
5. The major product of the following reaction, if it occurs by S_N2 mechanism is :



A. 

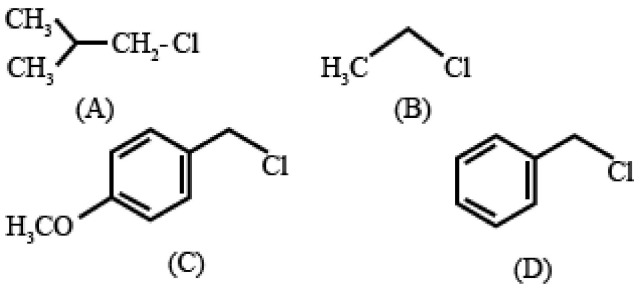
B. 

C. 

D. 

Halo compounds + Compounds containing Oxygen

6. Increasing order of reactivity of the following compunds for $S_N\,1$ substitution is:



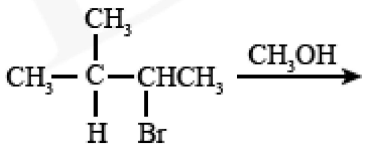
A. $(A) < (B) < (D) < (C)$

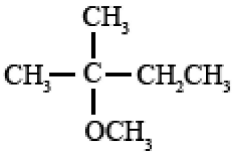
B. $(B) < (C) < (D) < (A)$

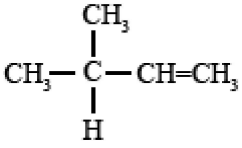
C. $(B) < (C) < (A) < (D)$

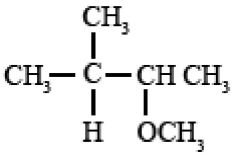
D. $(B) < (A) < (D) < (C)$

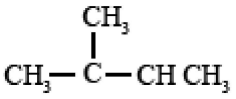
7. The major product of the following reaction is :



A.


B.


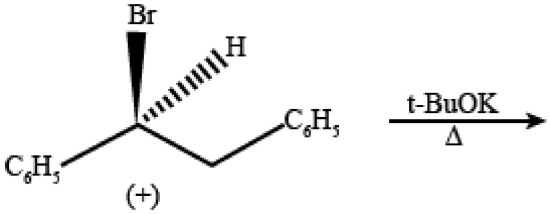
C.


D.


E. Answer not mention

Halo compounds + Compounds containing Oxygen

8. The major product obtained in the following reaction is :



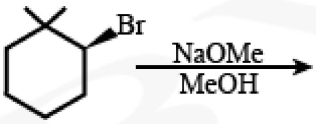
A. $C_6H_5CH = CHC_6H_5$

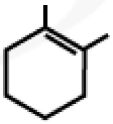
B. $(+)C_6H_5CH(O^tBu)CH_2C_6H_5$

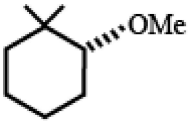
C. $(-)C_6H_5CH(O^tBu)CH_2C_6H_5$

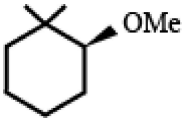
D. $(\pm)C_6H_5CH(O^tBu)CH_2C_6H_5$

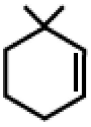
9. The major product of the following reaction is :



A. 

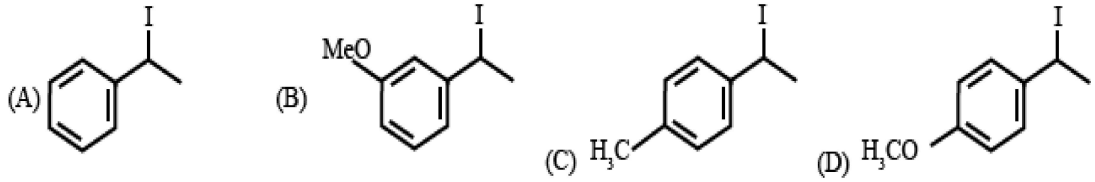
B. 

C. 

D. 

Halo compounds + Compounds containing Oxygen

10. Increasing rate of S_N1 reaction in the following compunds is :



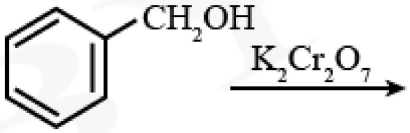
A. $(B) < (A) < (D) < (C)$

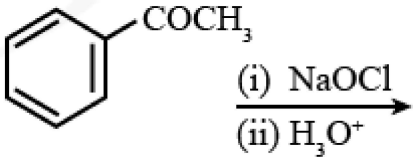
B. $(A) < (B) < (C) < (D)$

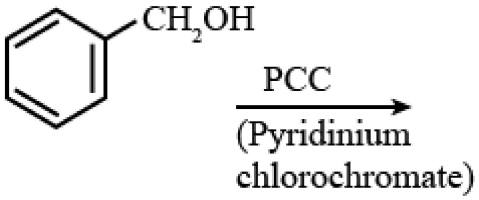
C. $(A) < (B) < (D) < (C)$

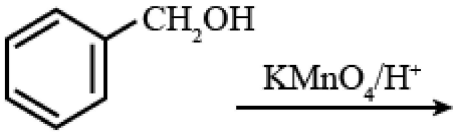
D. $(B) < (A) < (C) < (D)$

11. The reaction that does not give benzoic acid as the major product is:

A. 

B. 

C. 

D. 

Halo compounds + Compounds containing Oxygen

12. When vapours of a secondary alcohol is passed over heated copper at $573\ K$, the product formed is:

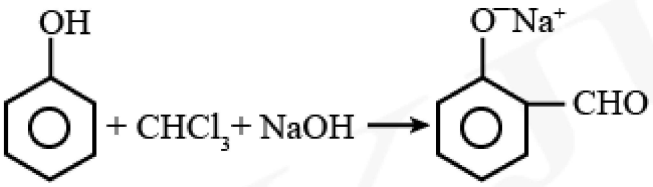
A. a carboxylic acid

B. an aldehyde

C. a ketone

D. an alkene

13. In the reaction



The electrophile involved is

A. Dichloromethyl cation ($\overset{\oplus}{C}HCl_2$)

B. Formyl cation ($\overset{\oplus}{C}HO$)

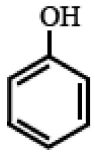
C. Dichlorocarbene (: CCl_2)

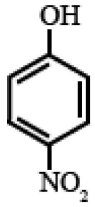
D. Dichloromethyl anion ($\overset{\oplus}{C}HCl_2$)

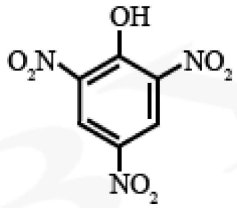
Halo compounds + Compounds containing Oxygen

14. Which one is the most acidic compound?

A. 

B. 

C. 

D. 

15. Which of the following reagents would distinguish cis-cyclopenta-1, 2-diol from the trans-isomer?

A. Aluminium isopropoxide

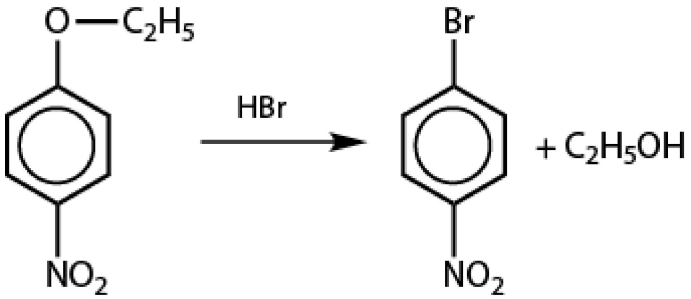
B. Acetone

C. Ozone

D. MnO_2

Halo compounds + Compounds containing Oxygen

16. **Assertion:**



Reason: Due to formation of highly stable carbocation.

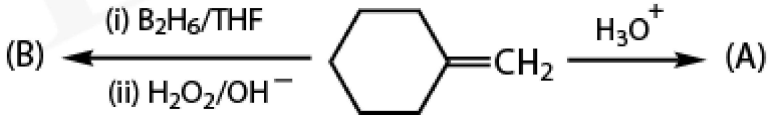
A. Both assertion and reason are true and reason is the correct explanation of assertion

B. Both assertion and reason are true and reason is not the correct explanation of assertion

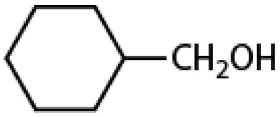
C. Assertion is true but reason is false

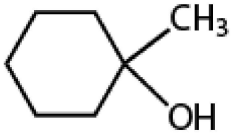
D. Both assertion and reason are false

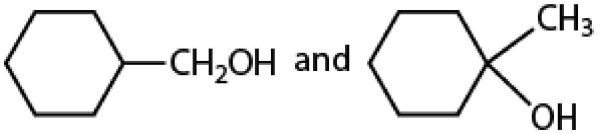
17. In the following reaction,

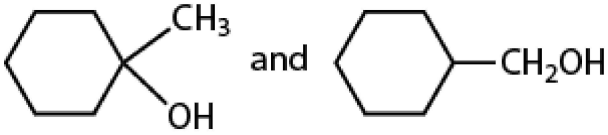


(A) and (B) respectively, are

A. Both are 

B. Both are 

C. 

D. 

Halo compounds + Compounds containing Oxygen

18. Consider the following reaction:

$$\text{Phenol} \xrightarrow{\text{Zn dust}} X \xrightarrow[\text{Anhydrous } AlCl_3]{CH_3Cl} Y \xrightarrow{\text{Alkaline } KMnO_4} Z$$

The product Z is

A. Benzene

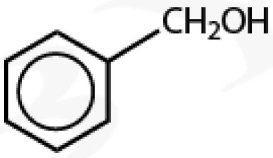
B. Toluene

C. Benzaldehyde

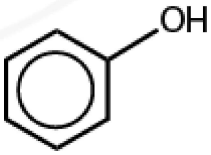
D. Benzoic acid

19. Which one of the following compound has the most acidic nature?

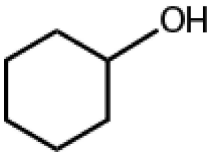
A.



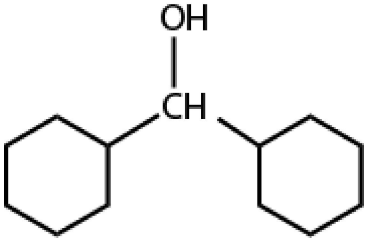
B.



C.

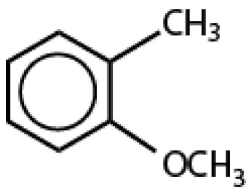


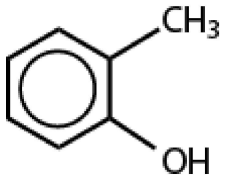
D.

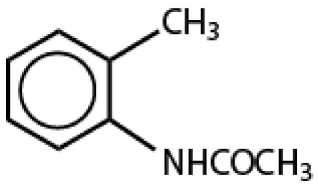


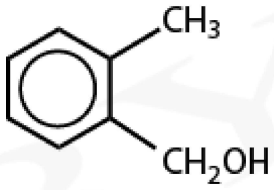
Halo compounds + Compounds containing Oxygen

20. Which one of the following is most reactive towards electrophilic reagent?

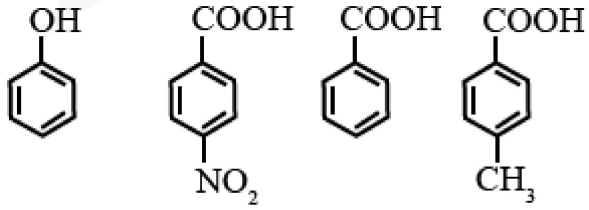
A. 

B. 

C. 

D. 

21. The correct order of acid character of the following compounds is :



A. $IV > III > II > I$

B. $II > III > IV > I$

C. $I > II > III > IV$

D. $III > II > I > IV$

Halo compounds + Compounds containing Oxygen

22. $\underset{(C_4H_8Cl_2)}{A} \xrightarrow[373K]{\text{Hydrolysis}} \underset{(C_4H_8O)}{B}$

B reacts with Hydroxyl amine but does not give Tollen's test. Identify A and B.

A. 2, 2-Dichlorobutane and Butanal

B. 1, 1-Dichlorbutane and Butanal

C. 1, 1-Dichlorobutane and Butan-2-one

D. 2, 2-Dichlorobutane and Butan-2-one

23. 2, 4-DNP test can be used to identity

A. Aldehyde

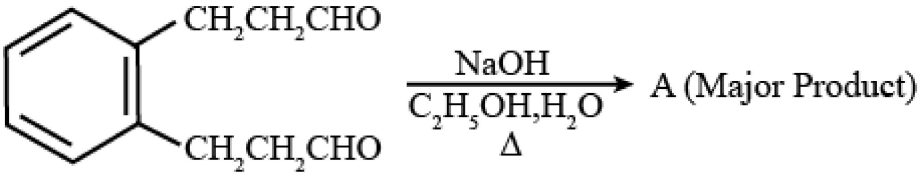
B. Amine

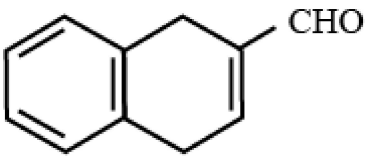
C. Ether

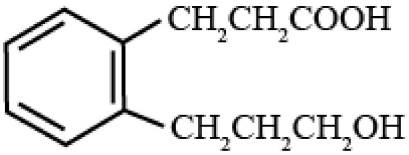
D. Halogens

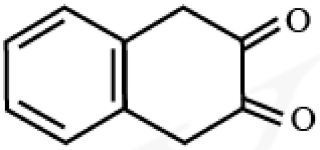
Halo compounds + Compounds containing Oxygen

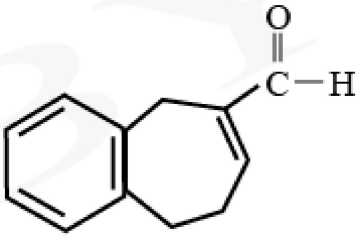
24. Identify A in the given chemical reaction.



A. 

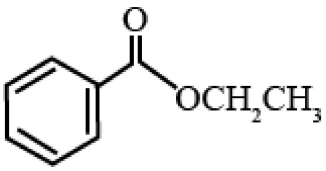
B. 

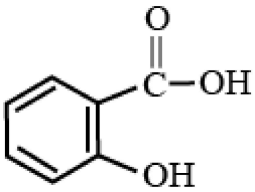
C. 

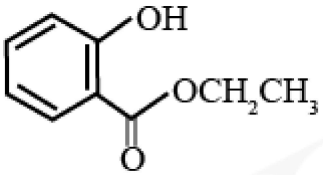
D. 

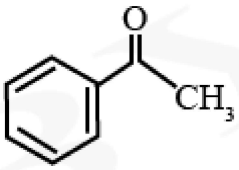
Halo compounds + Compounds containing Oxygen

25. Which one of the following compounds will give orange percipitate when treated with 2, 4-dinitrophenyl hydrazine?

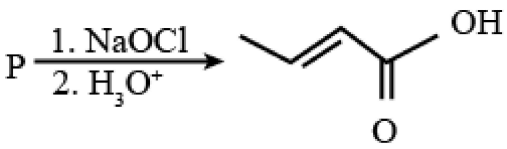
A. 

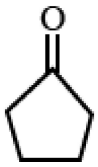
B. 

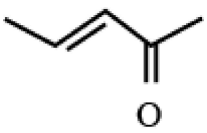
C. 

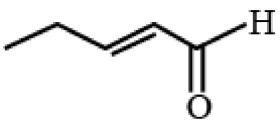
D. 

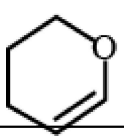
26. The structure of the starting compound P used in the reaction given below is:



A. 

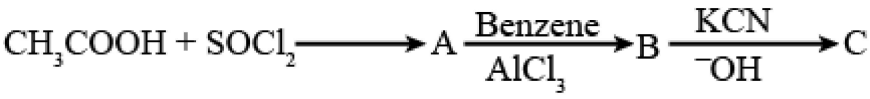
B. 

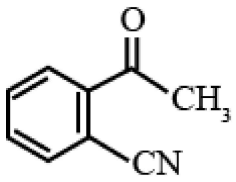
C. 

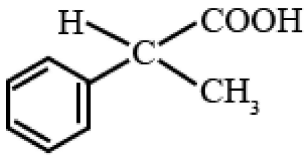
D. 

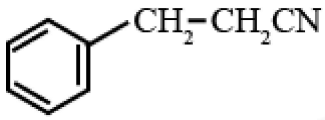
Halo compounds + Compounds containing Oxygen

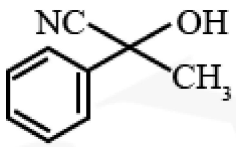
27. The structure of product C, formed by the following sequence of reaction is :

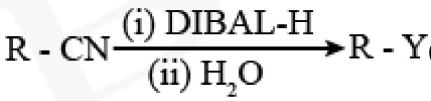


A. 

B. 

C. 

D. 

28. 

Consider the above reaction and identify "Y"

A. $-CH_2NH_2$

B. $-CHO$

C. $COOH$

D. $-CONH_2$

Halo compounds + Compounds containing Oxygen

29. Match List-I with List-II

List-I (Chemical reaction)	List-II (Reagent used)
(a)$CH_3COOCH_2CH_3 \rightarrow CH_3CH_2OH$	(i)CH_3MgBr/H_3O^+ (1 equivalent)
(b) $CH_3COOHCH_3 \rightarrow CH_3CHO$	(ii)H_2SO_4/H_2O
(c) $CH_3C \equiv N \rightarrow CH_3CHO$	(iii)$DIBAL - H/H_2O$
(d) $CH_3C \equiv N \rightarrow CH_3COCH_3$	(iv) $SnCl_2, HCl/H_2O$

Choose the most appropriate match.

A. $(a)-(ii),(b)-(iii),(c)-(iv),(d)-(i)$

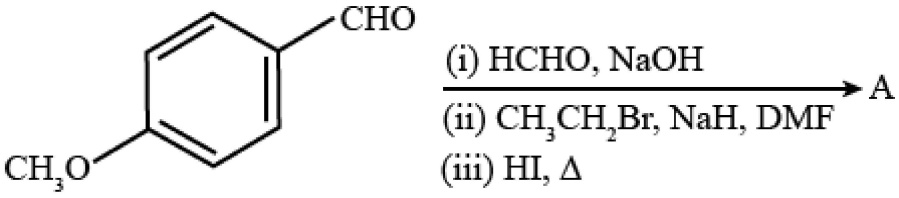
B. $(a)-(iii),(b)-(ii),(c)-(i),(d)-(iv)$

C. $(a)-(ii),(b)-(iv),(c)-(iii),(d)-(i)$

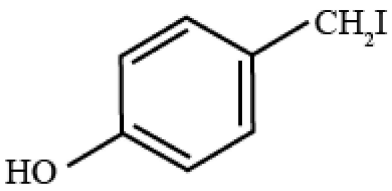
D. $(a)-(iv),(b)-(ii),(c)-(iii),(d)-(i)$

Halo compounds + Compounds containing Oxygen

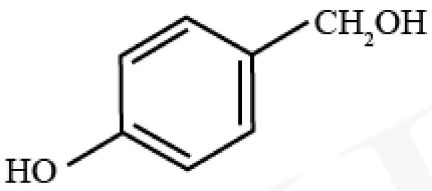
30. Identify A in the following chemical reaction.



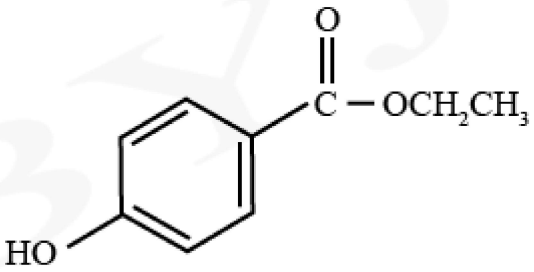
A.



B.



C.



D.