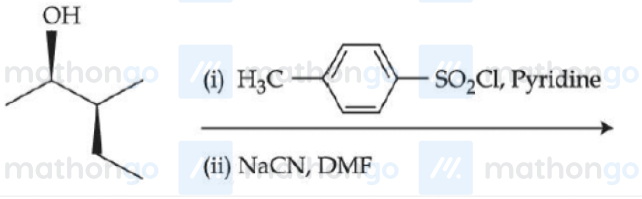
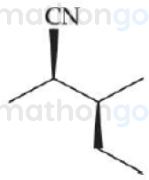
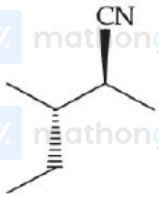
Q1 - 25 July - Shift 1

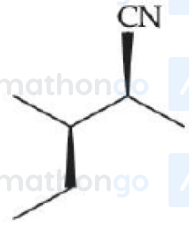
Most stable product of the following reaction is:

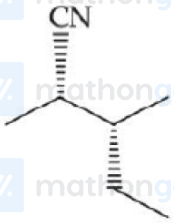
Space for your notes:



(A) 

(B) 

(C) 

(D) 

Q2 - 25 July - Shift 1

Given below are two statements :

Space for your notes:

Statement I : On heating with $KHSO_4$, glycerol is dehydrated and acrolein is formed.

Statement II : Acrolein has fruity odour and can be used to test glycerol's presence.

Choose the correct option.

(A) Both Statement I and Statement II are correct.

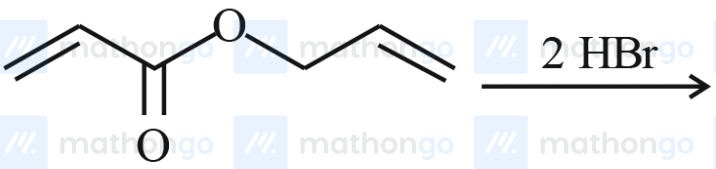
(B) Both Statement I and Statement II are incorrect

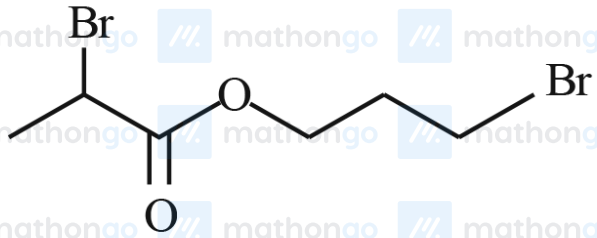
(C) Statement I is correct but Statement II is incorrect.

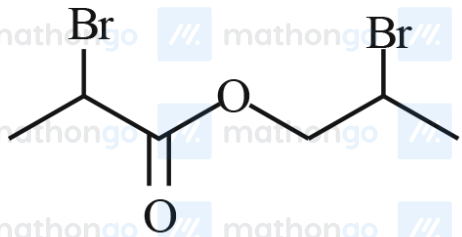
(D) Statement I is incorrect but Statement II is correct.

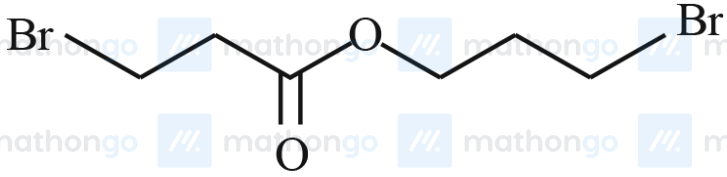
Q3 - 25 July - Shift 2

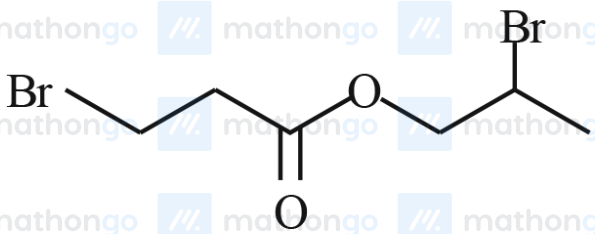
Major product of the following reaction is



(A) 

(B) 

(C) 

(D) 

Space for your notes:

Q4 - 26 July - Shift 1

The difference in the reaction of phenol with bromine in chloroform and bromine in water medium is due to :

(A) Hyperconjugation in substrate

(B) Polarity of solvent

(C) Free radical formation

(D) Electromeric effect of the substrate

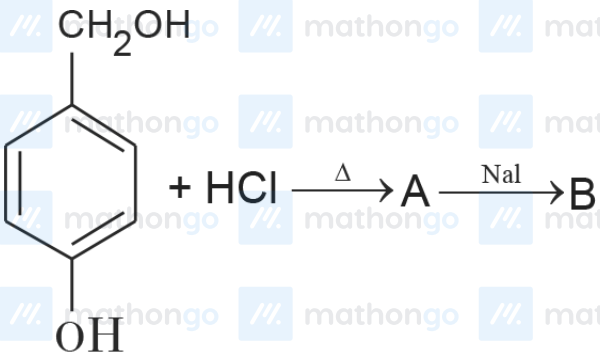
Space for your notes:

Q5 - 26 July - Shift 2

A 100 mL solution of CH_3CH_2MgBr on treatment with methanol produces 2.24 mL of a gas at STP. The weight of gas produced is _____ mg. [nearest integer]

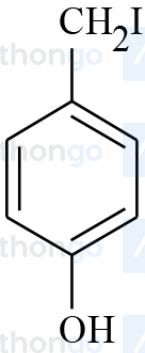
Space for your notes:

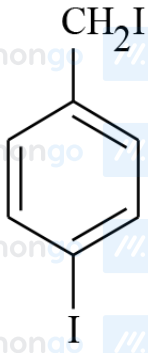
Q6 - 27 July - Shift 1

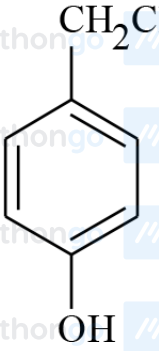


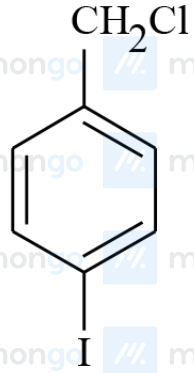
Space for your notes:

In the above reaction product B is:

(A) 

(B) 

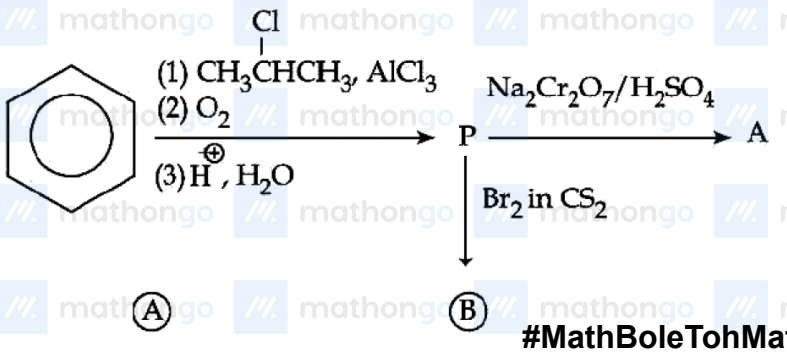
(C) 

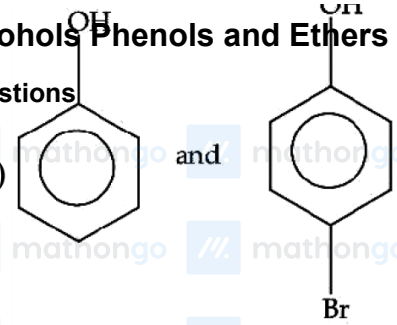
(D) 

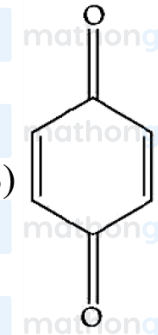
Q7 - 28 July - Shift 1

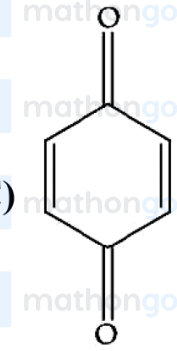
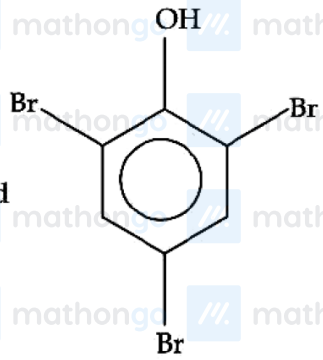
Identify the major product A and B for the below given reaction sequence.

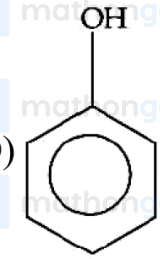
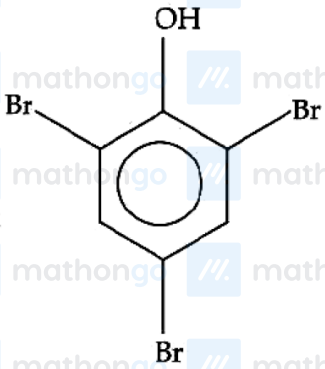
Space for your notes:



(A)  and

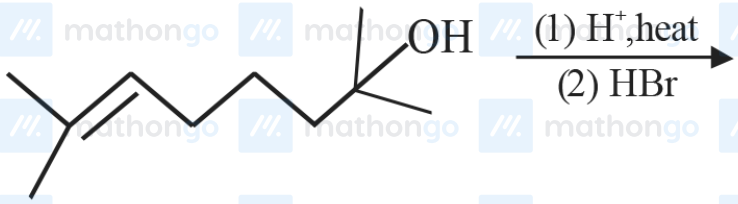
(B)  and 

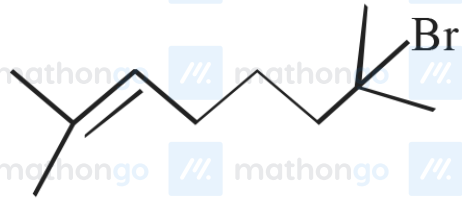
(C)  and 

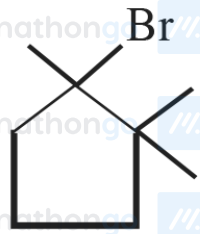
(D)  and 

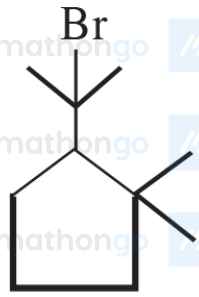
Q8 - 28 July - Shift 2

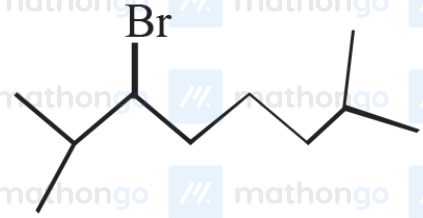
The major product in the given reaction is



(A) 

(B) 

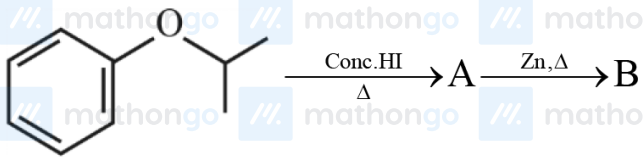
(C) 

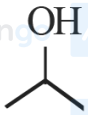
(D) 

Space for your notes:

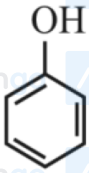
Q9 - 28 July - Shift 2

Compound I is heated with Conc. HI to give a hydroxy compound A which is further heated with Zn dust to give compound B. Identify A and B.

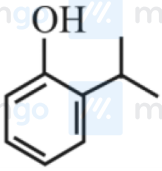


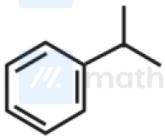
(A) A = 

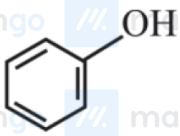
, B = 

(B) A = 

, B = 

(C) A = 

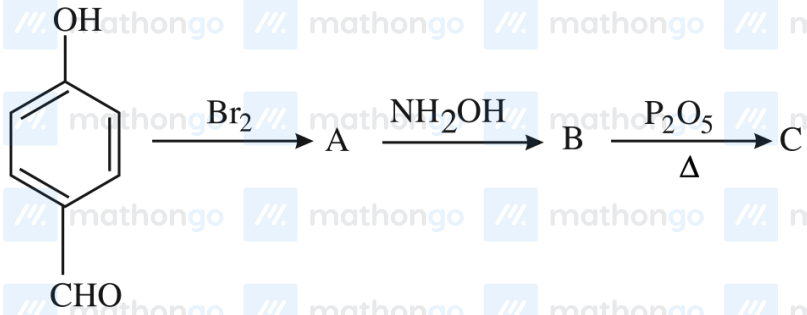
, B = 

(D) A = 

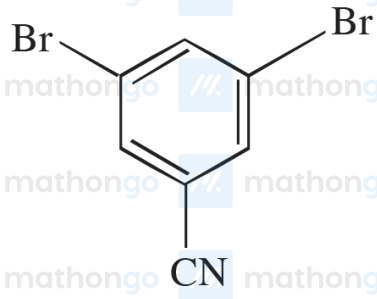
, B = 

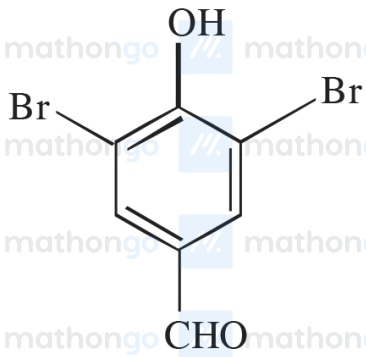
Space for your notes:

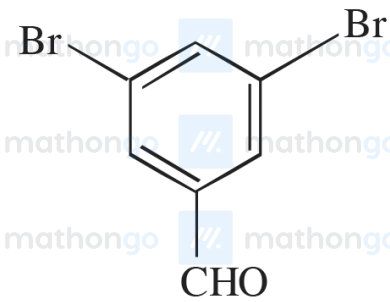
Q10 - 29 July - Shift 1

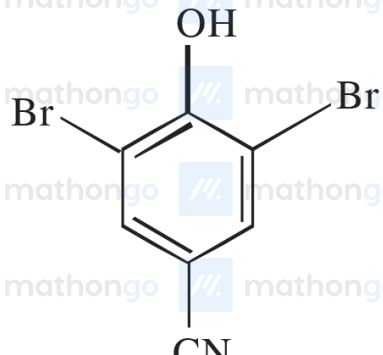


Consider the above reaction sequence, the Product 'C' is :

(A)


(B)


(C)


(D)


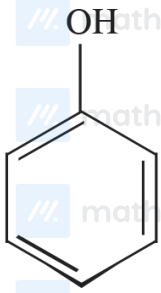
Space for your notes:

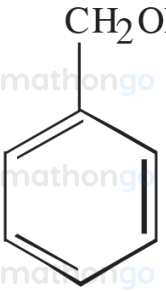
Q11 - 29 July - Shift 1

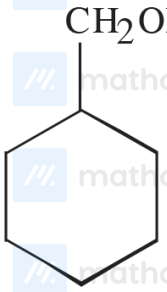
A compound 'X' is acidic and it is soluble in NaOH solution, but insoluble in $NaHCO_3$ solution. Compound 'X' also gives violet colour with neutral $FeCl_3$ solution. The compound 'X' is :

Space for your notes:

(A) 

(B) 

(C) 

(D) 

Q12 - 29 July - Shift 2

When enthanol is heated with conc. H_2SO_4, a gas is produced. The compound formed, when this gas is treated with cold dilute aqueous solution of Baeyer's reagent, is :

Space for your notes:

(A) Formaldehyde (B) Formic acid

(C) Glycol (D) Ethanoic acid

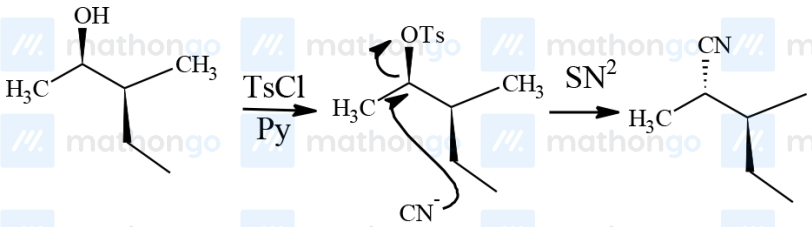
Answer Key

Q1 (B) **Q2** (C) **Q3** (D) **Q4** (B)

Q5 (3) **Q6** (A) **Q7** (B) **Q8** (C)

Q9 (D) **Q10** (D) **Q11** (B) **Q12** (C)

Q1 (B)

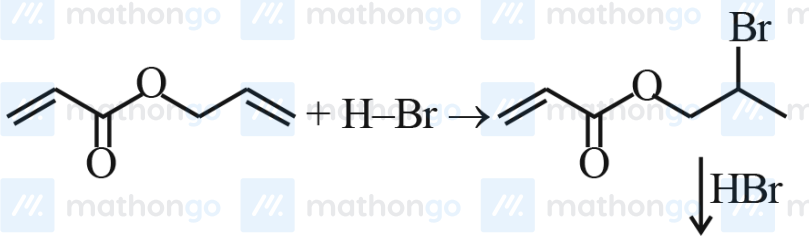


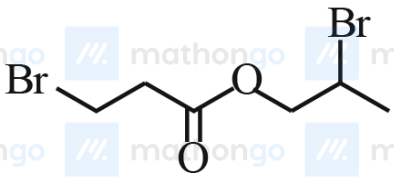
Q2 (C)

Acrolein has a pungent, suffocating odour.

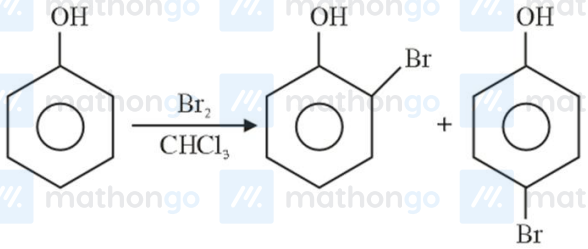
Acrolein is used to detect presence of glycerol

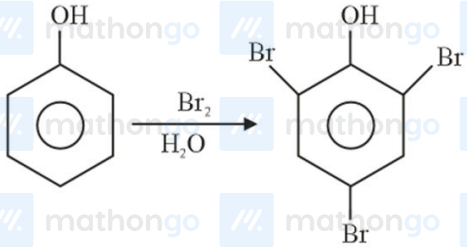
Q3 (D)





Q4 (B)





Difference in reactions is observed due to solvent polarity, which

(i) Ionizes phenol to make more reactive phenoxide ion

(ii) Increases electrophilicity of bromine.

Q5 (3)

$$CH_3–CH_2–MgBr + CH_3OH \longrightarrow$$

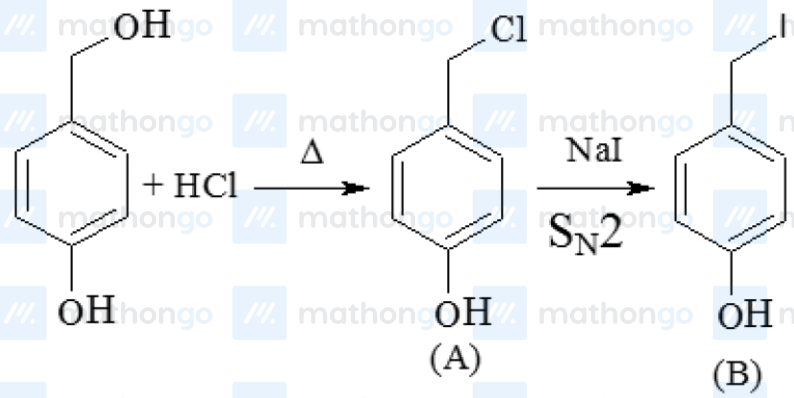
$$CH_3–CH_3 + Mg\begin{matrix}OCH_3\\Br\end{matrix}$$

$$n = \frac{2.24\times10^{-3}}{22.4} = 10^{-4}$$

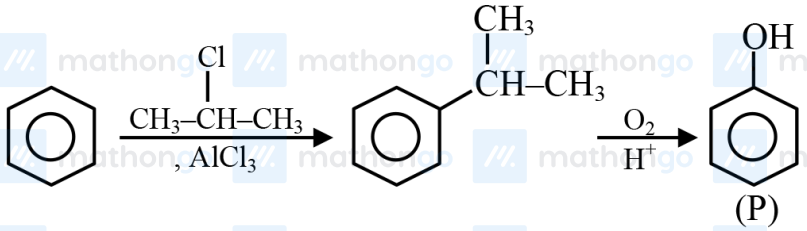
$$W = n \times M$$

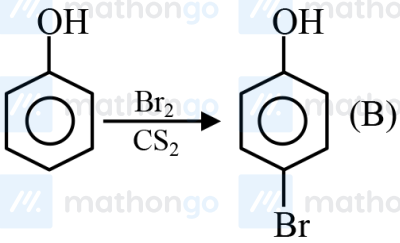
$$= 10^{-4} \times 30 = 3\ mg$$

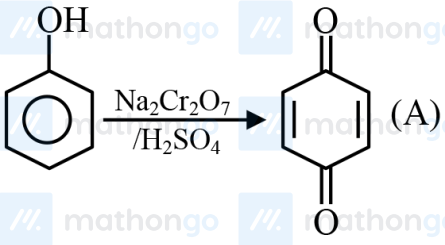
Q6 (A)


OH
+ HCl
OH
Δ
Cl
OH
(A)
NaI
S_N2
I
OH
(B)

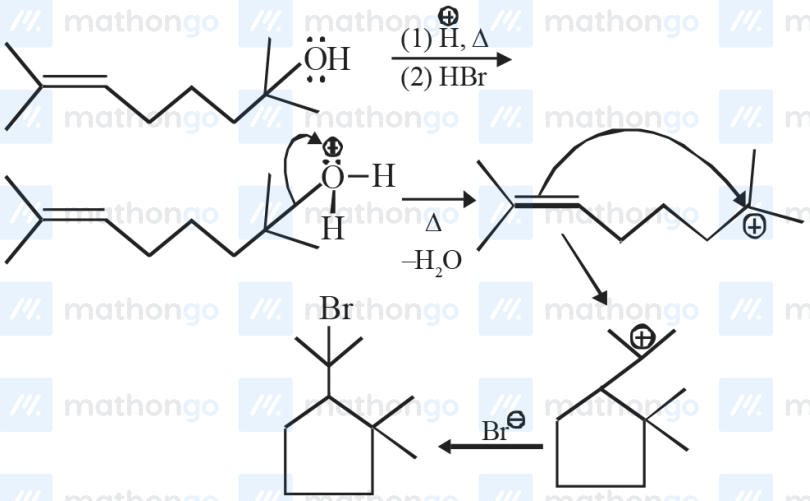
Q7 (B)


Cl
$CH_3–CH–CH_3$
, $AlCl_3$
CH_3
CH–CH_3
O_2
H^+
OH
(P)

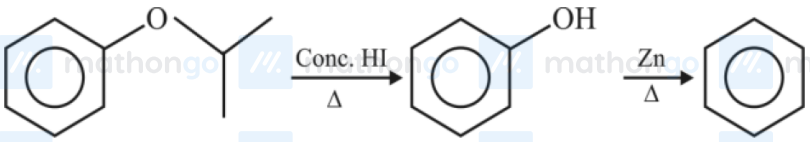

OH
Br_2
CS_2
OH
Br
(B)


OH
$Na_2Cr_2O_7$
$/H_2SO_4$
O
O
(A)

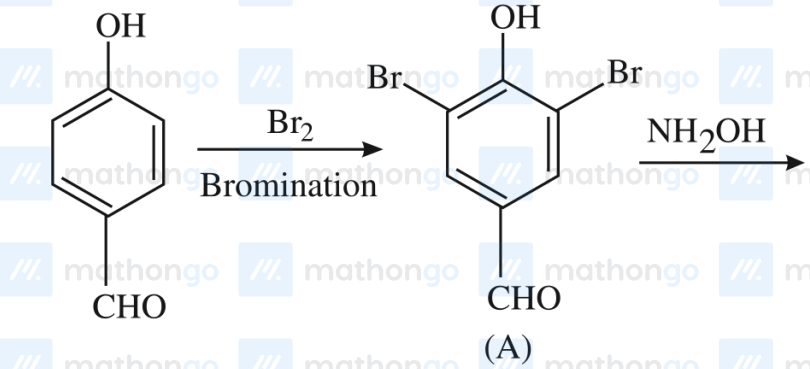
Q8 (C)

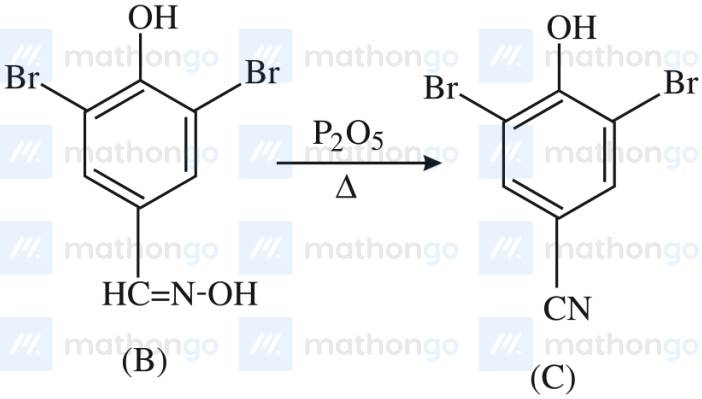

OH
(1) H, Δ
(2) HBr
O–H
H
Δ
–H2O
Br
Br⊖

Q9 (D)

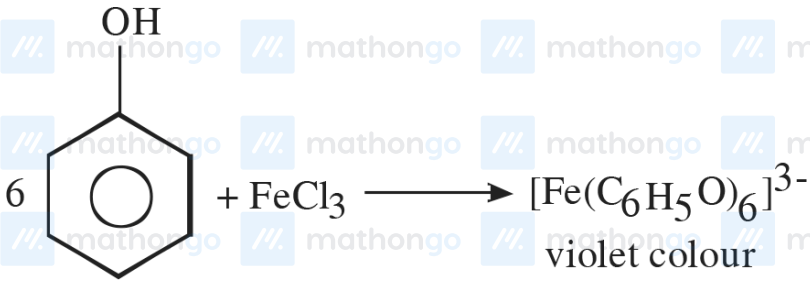

O
Conc. HI
Δ
OH
Zn
Δ

Q10 (D)

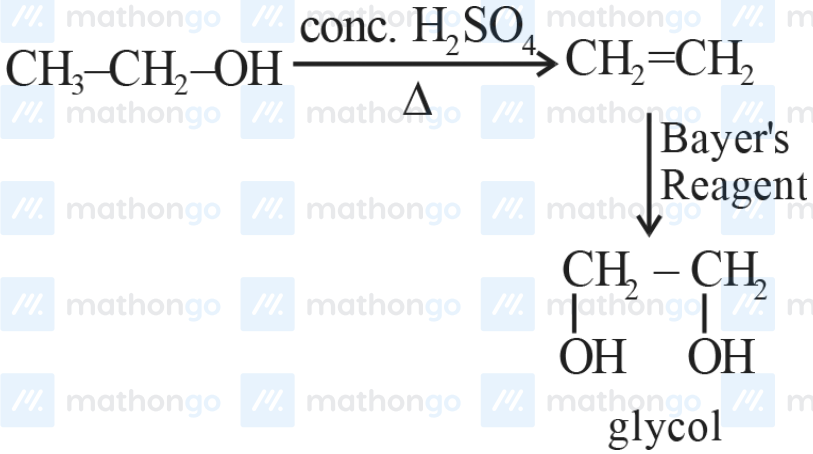

OH
Br2
Bromination
Br
Br
NH2OH
CHO
(A)


OH
Br
Br
HC=N-OH
(B)
P2O5
Δ
OH
Br
Br
CN
(C)

Q11 (B)


OH
6
+ FeCl3
[Fe(C6H5O)6]3-
violet colour

Q12 (C)


CH3–CH2–OH
conc. H2SO4
Δ
CH2=CH2
Bayer's
Reagent
CH2 – CH2
OH OH
glycol