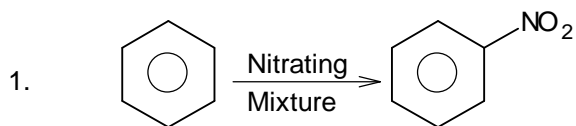


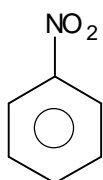
Single Correct Answer Type:



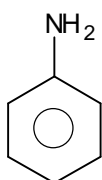
Given reaction is an example of

- (A) Substitution electrophilic aromatic (SEAr) (B) Substitution nucleophilic aromatic (SNAr)
(C) Electrophilic addition reaction (EAR) (D) Bi molecular nucleophilic substitution (SN₂)

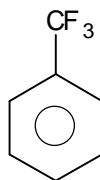
2. Which of the following compound gives poor yield in fridel-craft reaction



(A)



(B)

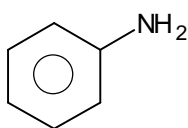


(C)

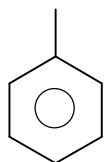
All of these

(D)

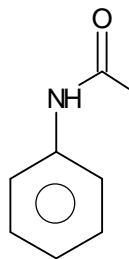
3. Most reactive towards nitration reaction (Sub-stitution electrophilic aromatic)



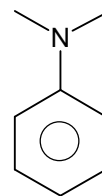
(A)



(B)

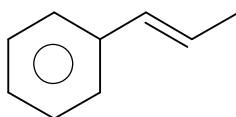


(C)

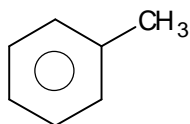


(D)

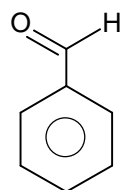
4. Which of the following compound gives benzoic acid when it reacts with hot KMnO₄ followed by acidification



(A)



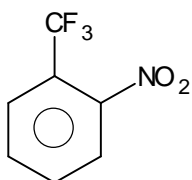
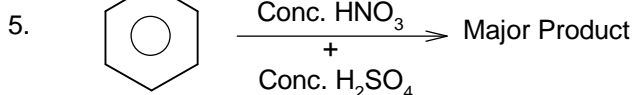
(B)



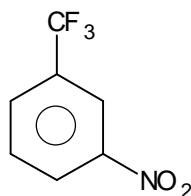
(C)

All of these

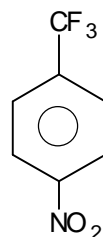
(D)



(A)



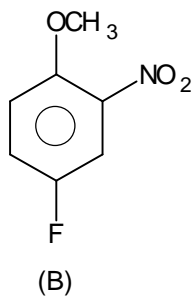
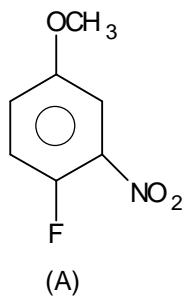
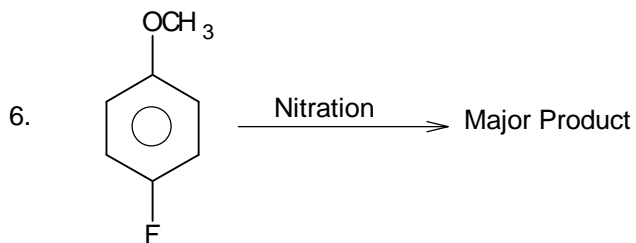
(B)



(C)

A and C both

(D)

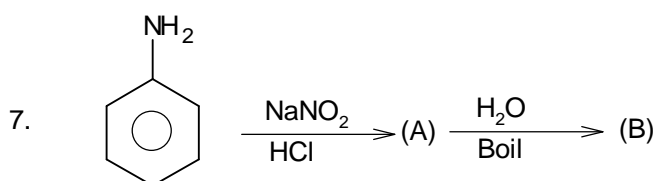


Mixture A & B

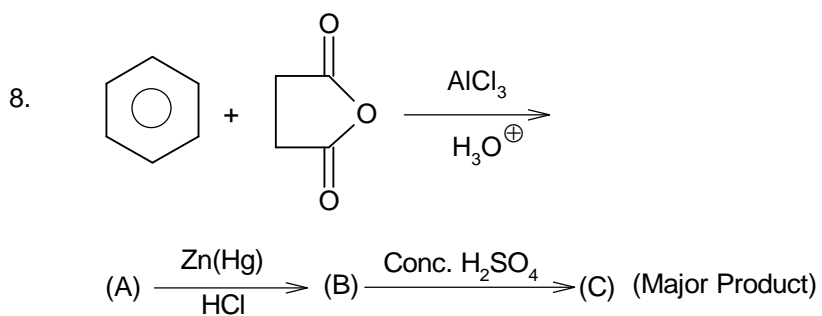
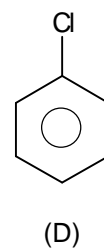
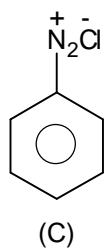
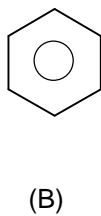
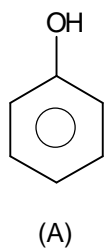
None of these

(C)

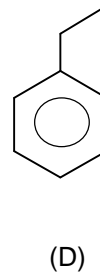
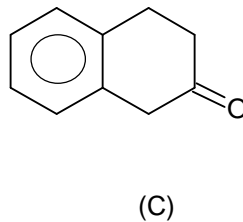
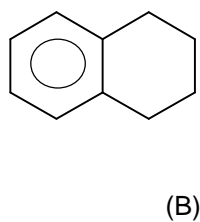
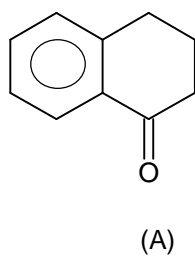
(D)



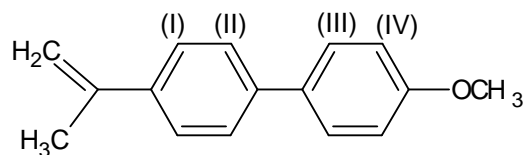
Product (B) will be:



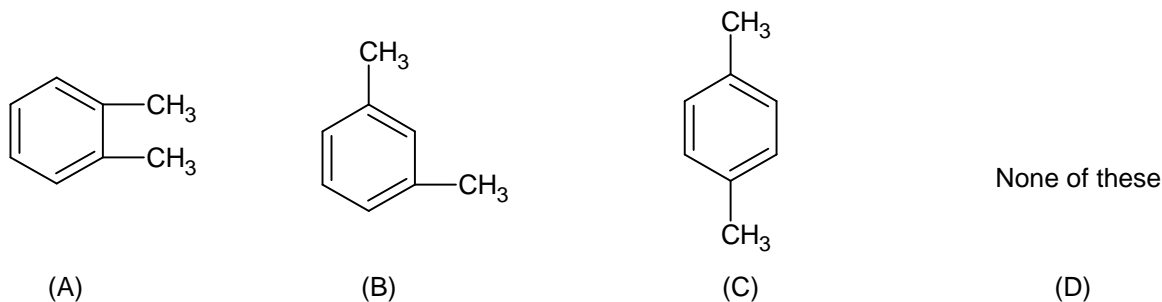
C will be:



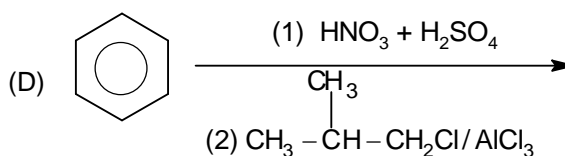
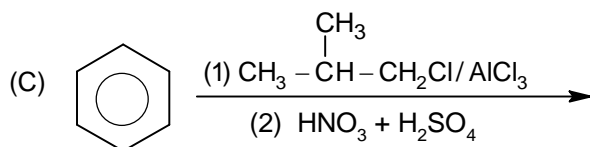
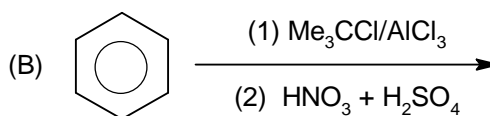
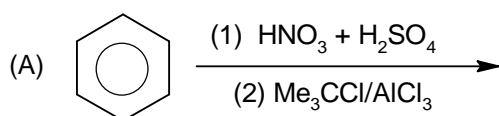
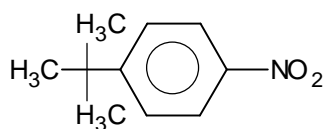
9. Which position will be attacked most rapidly by the nitronium ion (NO_2^+) when the following compound undergoes nitration with $\text{HNO}_3/\text{H}_2\text{SO}_4$:



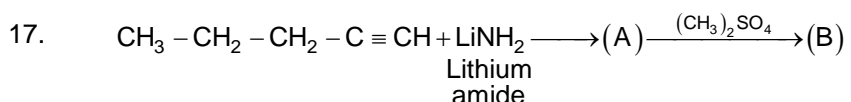
- (A) I (B) II (C) III (D) IV
10. Which of the following is most reactive towards sulphonation?
 (A) m-Xylene (B) o-Xylene (C) Toluene (D) p-Xylene
11. Ring nitration of dimethyl benzene results in the formation of only one nitro substituted dimethyl benzene. The dimethyl benzene is:



12. An aromatic compound of molecular formula $\text{C}_6\text{H}_4\text{Br}_2$ was nitrated which gives three isomers of formula $\text{C}_6\text{H}_3\text{Br}_2\text{NO}_2$ were obtained. The original compound is:
 (A) o-dibromobenzene (B) m-dibromobenzene (C) p-dibromobenzene (D) both A and C
13. For the electrophilic substitution reaction involving nitration, which of the following sequence regarding the rate of reaction is true?
 (A) $K_{\text{C}_6\text{H}_6} > K_{\text{C}_6\text{D}_6} > K_{\text{C}_6\text{T}_6}$ (B) $K_{\text{C}_6\text{H}_6} < K_{\text{C}_6\text{D}_6} < K_{\text{C}_6\text{T}_6}$
 (C) $K_{\text{C}_6\text{H}_6} = K_{\text{C}_6\text{D}_6} = K_{\text{C}_6\text{T}_6}$ (D) $K_{\text{C}_6\text{H}_6} > K_{\text{C}_6\text{D}_6} < K_{\text{C}_6\text{T}_6}$
14. For the electrophilic substitution reaction involving sulphonation, which of the following sequence regarding the rate of reaction is true?
 (A) $K_{\text{C}_6\text{H}_6} > K_{\text{C}_6\text{D}_6} > K_{\text{C}_6\text{T}_6}$ (B) $K_{\text{C}_6\text{H}_6} < K_{\text{C}_6\text{D}_6} < K_{\text{C}_6\text{T}_6}$
 (C) $K_{\text{C}_6\text{H}_6} = K_{\text{C}_6\text{D}_6} = K_{\text{C}_6\text{T}_6}$ (D) $K_{\text{C}_6\text{H}_6} > K_{\text{C}_6\text{D}_6} < K_{\text{C}_6\text{T}_6}$
15. Choose the best method to prepare given compound

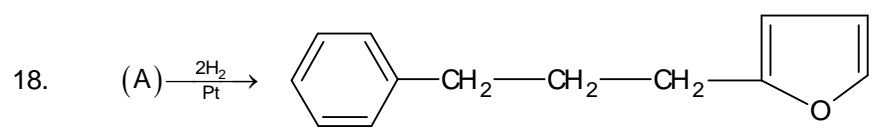


16. An unknown compound (A) has a molecular formula C_4H_6 . When (A) is treated with excess of Br_2 a new substance (B) with formula $C_4H_6Br_4$ is formed. (A) forms a white ppt. with ammonical silver nitrate solution. (A) may be
 (A) But-1-yne (B) But-2-yne (C) But-1-ene (D) But-2-ene



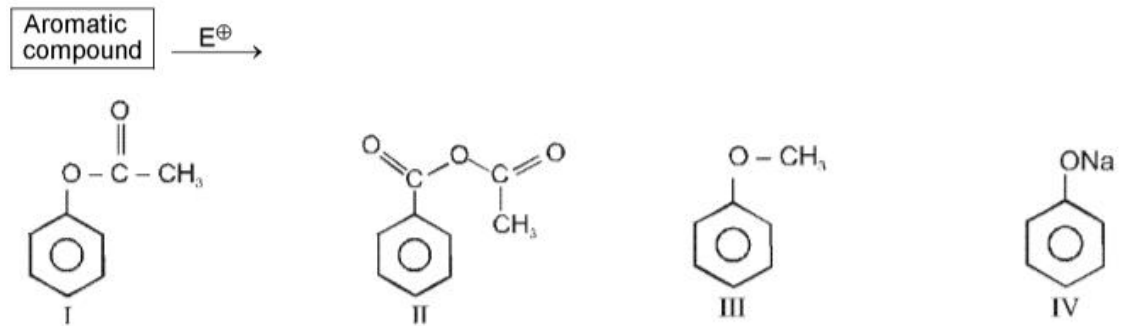
Give the structural formula of compound (B)

- (A) $CH_3 - (CH_3)_2 - C \equiv C - SO_3H$ (B) $CH_3 - (CH_2)_2 - C \equiv C - CH_3$
 (C) $CH_3 - (CH_3)_2 - C \equiv CH_2 - O - \overset{\overset{O}{\parallel}}{\underset{\underset{O}{\parallel}}{S}} - H$ (D) $CH_3 - CH_2 - C \equiv C - CH_3$



Unit of unsaturation in compound (A)?

- (A) 7 (B) 8 (C) 9 (D) 10
19. The reactivity order of benzene ring for the given reaction is (benzene ring with π electron density will be most reactive)

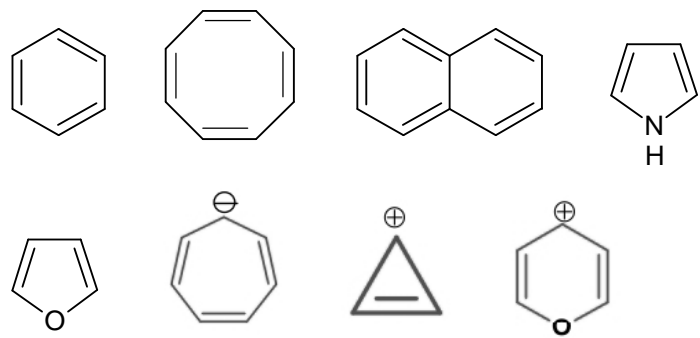


- (A) III > I > IV > II (B) I > III > IV > II (C) III > IV > II > I (D) IV > III > I > II

20. Which of the following is used to distinguish ethylene and acetylene?
 (A) Alkaline $KMnO_4$ (B) Bromine water
 (C) Ammoniacal cuprous chloride (D) Conc. H_2SO_4

Numerical Based:

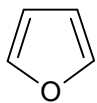
21. Find out number of aromatic compounds or ion from following.



22. The number of structural isomers possible for $C_6H_6O_3$ containing benzene ring (Do not consider peroxybond containing isomers) is X.

The number of structural isomers possible for C_7H_9N containing benzene ring is Y Then $X + Y$ is

23. How many resonating structures are possible for the compound?

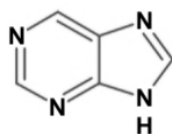


(Furan)

24. Find out number of benzylic hydrogen in _____



25. The purine heterocycle occurs mainly in the structure of DNA. Identify number of 'N' atoms having localised lone pair of electrons



(Purine)

KEY

1.	A	2.	D	3.	D	4.	D	5.	B
6.	B	7.	A	8.	A	9.	D	10.	A
11.	C	12.	B	13.	C	14.	A	15.	B
16.	A	17.	B	18.	C	19.	D	20.	C
21.	6	22.	8	23.	5	24.	5	25.	3