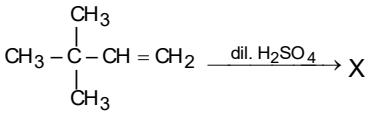
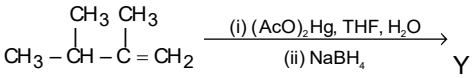
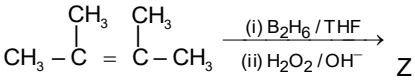
1.







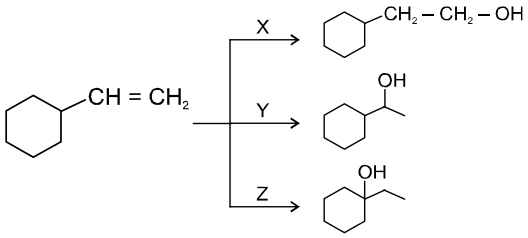
(A) All three products (X, Y, Z) are different.

(B) X and Y are identical but Z is different.

(C) Y and Z are identical but X is different.

(D) All three products (X, Y, Z) are identical.

2.



X, Y, Z reaction are :

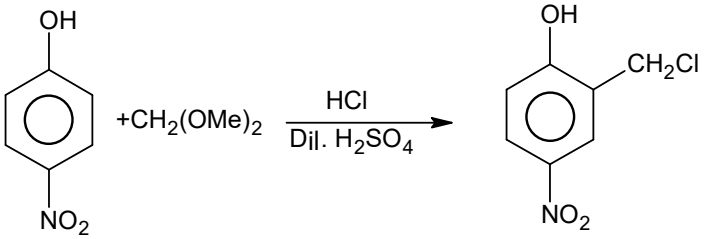
(A) Simple hydration reaction

(B) Hydroboration oxidation, hydration and oxymercuration demercuration

(C) Hydroboration oxidation, oxymercuration demercuration and hydration

(D) Oxymercuration demercuration, hydroboration oxidation and hydration

3. The following reaction is ..... reaction



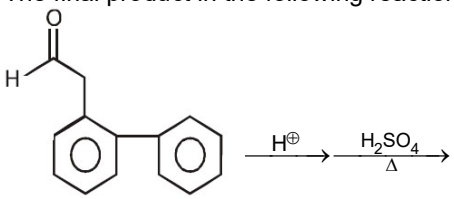
(A) Nucleophilic substitution

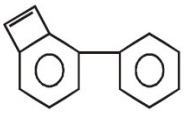
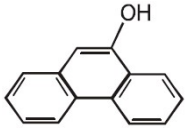
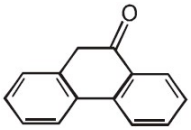
(B) Electrophilic substitution

(C) Both (A) and (B)

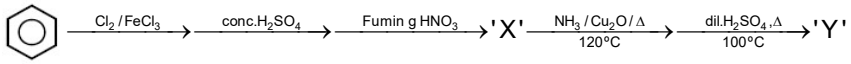
(D) Addition

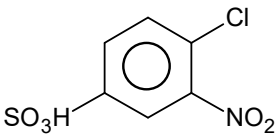
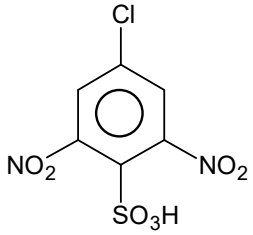
4. The final product in the following reaction is

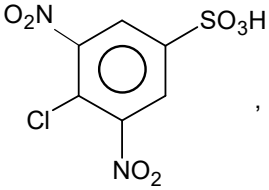
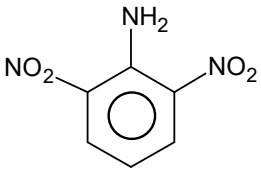


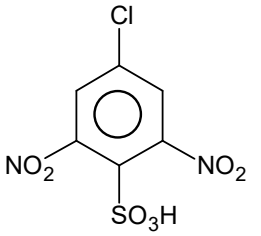
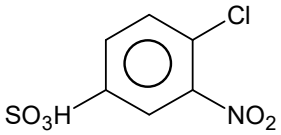
(A)  (B)  (C)  (D) 

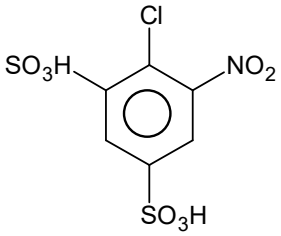
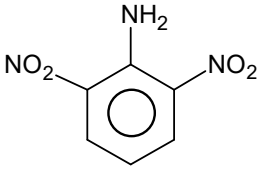
5. Identify the 'X' and 'Y' respectively



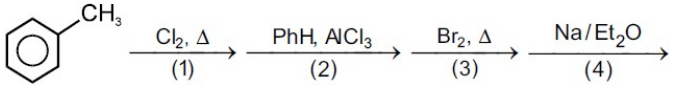
(A)  , 

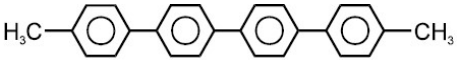
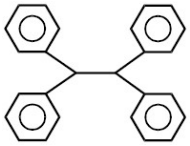
(B)  , 

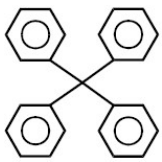
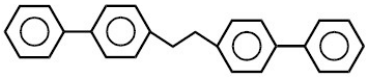
(C)  , 

(D)  , 

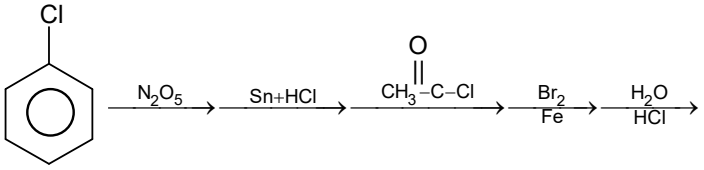
6. The end product of following sequence of reactions is

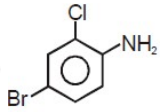


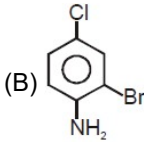
(A)  (B) 

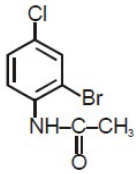
(C)  (D) 

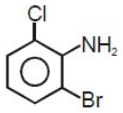
7. Find the final product of following sequence of reactions:

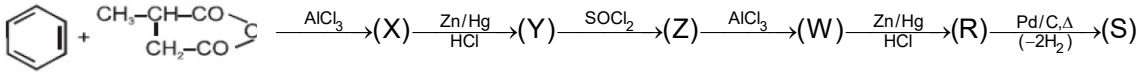


(A) 

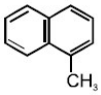
(B) 

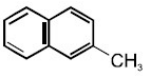
(C) 

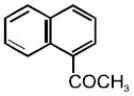
(D) 

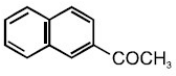
8. 

The compound (S) is :

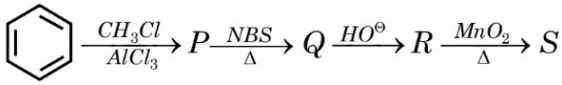
(A) 

(B) 

(C) 

(D) 

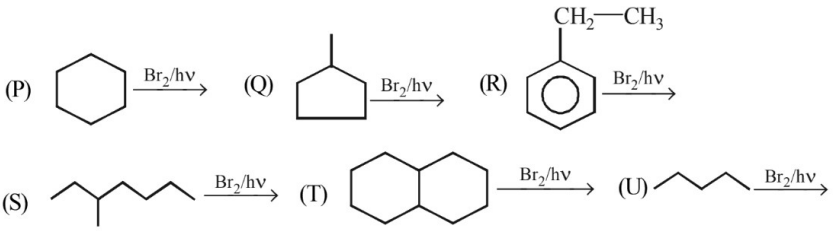
9. The end product of following reaction is :



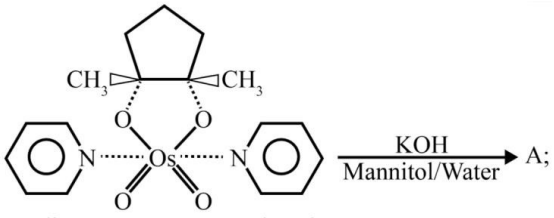
(A) Benzyl alcohol (B) Benzene carbaldehyde

(C) Benzoic acid (D) Benzophenone

10. Among the following free radical bromination reactions, select those in which 2° halide is the major product-

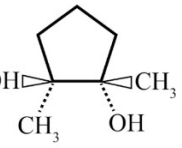


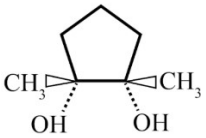
(A) P, Q, R, S (B) P, R, U (C) P, R, S, T (D) P, Q, R, S, T

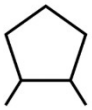
11. 

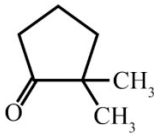
Cyclic osmate ester complexed with pyridine

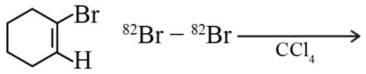
Product (A) is:

(A) 

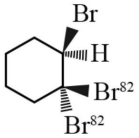
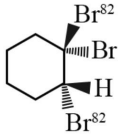
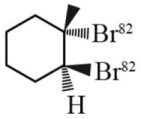
(B) 

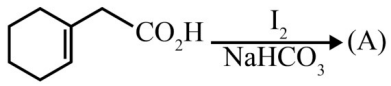
(C) 

(D) 

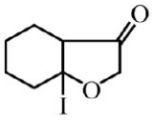
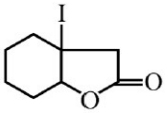
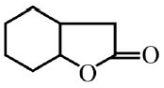
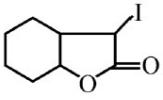
12. 

Major product of the reaction is:

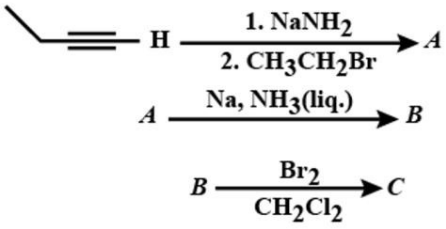
(A) 
(B) 
(C) 
(D) 

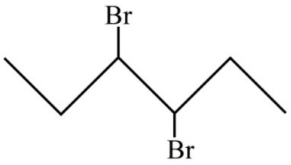
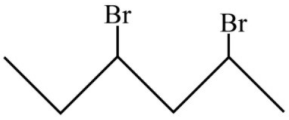
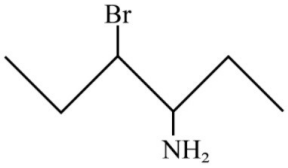
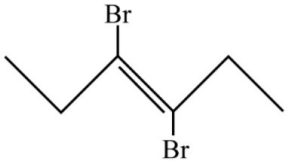
13. 

Major product of the reaction is:

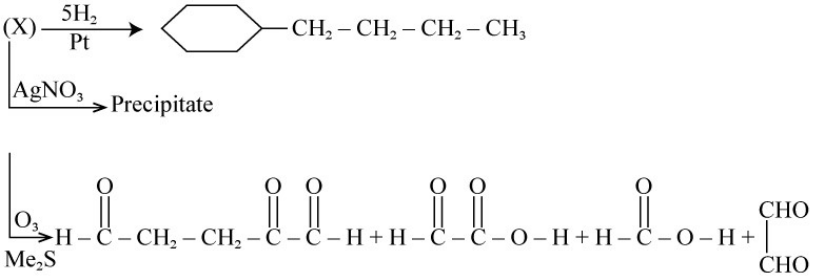
(A) 
(B) 
(C) 
(D) 

14. What is the product, C, of the following reaction sequence?

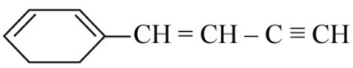
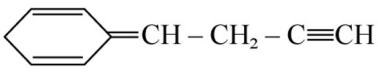


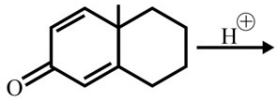
(A) 
(B) 
(C) 
(D) 

15. Compound

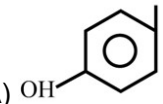
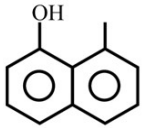
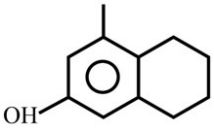
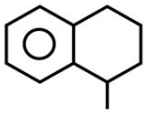


Compound (X) will be:

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

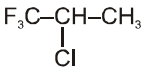
16. 

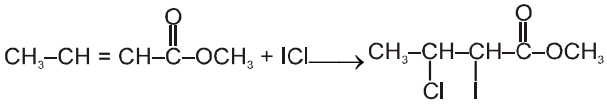
Predict the major product:

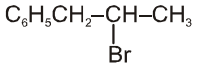
(A)  (B)  (C)  (D) 

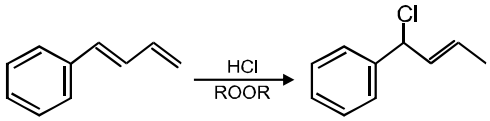
MULTIPLE CHOICE QUESTIONS

17. In which of the following reaction reactants and products are correctly matched ?

(A) $F_3C–CH=CH_2 + HCl \longrightarrow$ 

(B) 

(C) $C_6H_5CH = CHCH_3 + HBr \xrightarrow{ROOR}$ 

(D) 

18. Which statement is /are correct.

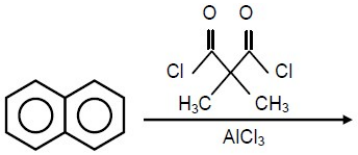
(A) No primary kinetic isotope effect is observed during nitration of benzene

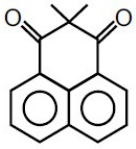
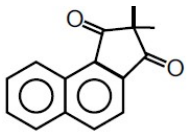
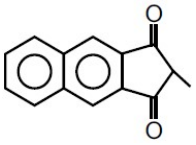
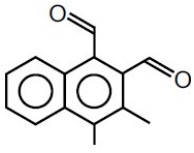
(B) $K_H / K_D = 1$ for halogenation of benzene

(C) $K_H / K_D = 1$ for sulphonation of benzene

(D) K_H/K_D is > 1 for alkylation of benzene

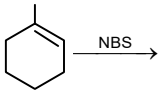
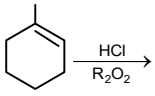
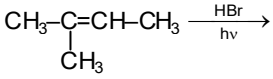
19. Which of the following product/s can be obtained in the following reaction –

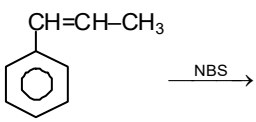


(A)  (B)  (C)  (D) 

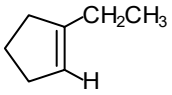
Integer Type Question

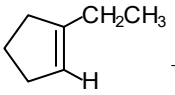
20. How many reactions will proceed through free radical addition mechanism ?

(i)  (ii)  (iii) 

(iv) $CH_3–C\equiv C–CH_2–CH_3 \xrightarrow[R_2O_2]{HI}$ (v) $CH_3–CH=CH_2 \xrightarrow[R_2O_2]{HBr}$ (vi) 

21. In the given reactions M is the number of major products obtained in Ist reaction and N number of major products obtained in IInd reaction. Report your answer as [M][N].

(i)  $\xrightarrow[(2)\ NaBH_4]{(1)\ Hg(OAC)_2,\ H_2O}$ M

(ii)  $\xrightarrow[(2)\ H_2O_2OH^{\ominus}]{(1)\ BH_3.THF}$ N

22.

	Column-I		**Column-II**
(A)	1-Phenylbut -1-yne $\xrightarrow[Hg^{+2}]{DiH_2SO_4}$	(p)	1–phenylbutan-1-one
(B)	1-Phenylbut -1-yne $\xrightarrow[(2)H_2O_2+OH]{(1)BH_3+THF}$	(q)	1–Phenylbutan-2-one
(C)	But-2-ene (cis) $\xrightarrow{Br_2+CCl_4}$	(r)	Syn addition
(D)	But-2-ene (trans) $\xrightarrow{Br_2+CCl_4}$	(s)	Anti addition
		(t)	Optically inactive

SUBJECTIVE CHOICE QUESTIONS

23. (a) Write structures for A, B and C in the following reaction :

$$C_6H_6 + CH_2 = CHCH_2Cl \xrightarrow{AlCl_3} A \xrightarrow[2.H_2O_2,OH^-]{1.BH_3/THF} B \xrightarrow[\Delta]{HF} C(C_9H_{10})$$

24. 2-Butyne undergoes following reactions in steps as indicated. Identify A to H.