ORGANIC CHEMISTRY

DPP

DAILY PRACTICE PROBLEMS

DPP No. 28

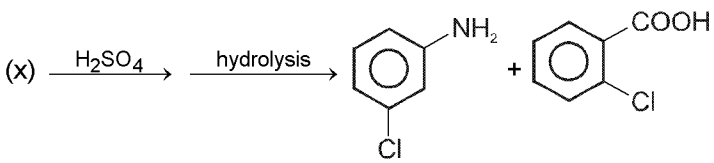
Total Marks : 32

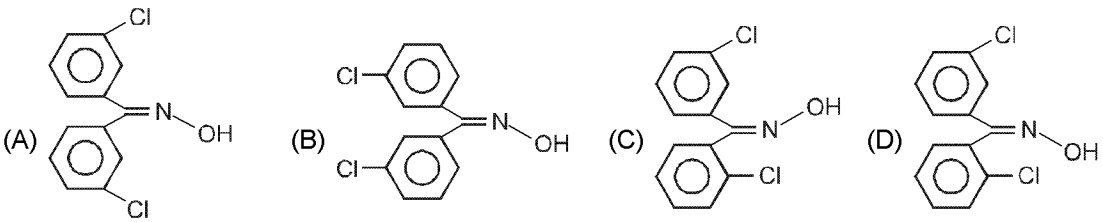
Max. Time : 35 min.

Topic : Aldehydes, Ketones

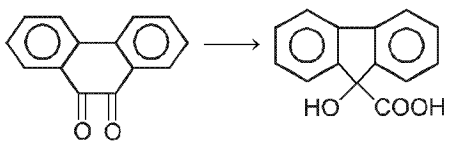
Type of Questions		M.M., Min.
Single choice Objective ('–1' negative marking) Q.1 to Q.3	(3 marks 3 min.)	[9, 9]
Comprehension ('–1' negative marking) Q.4 to Q.6	(3 marks 3 min.)	[9, 9]
True or False (no negative marking) Q.7	(2 marks 2 min.)	[2, 2]
Subjective Questions ('–1' negative marking) Q.8	(4 marks 5 min.)	[4, 5]
Match the Following (no negative marking) (2 × 4)	(8 marks 10 min.)	[8, 10]

1. The reactant 'x' is :





2.



Above conversion can be carried out by :

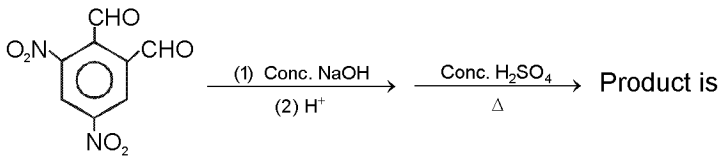
(A) $LiAlH_4$, H^+, Δ

(B) (i) OH^- (conc.), Δ (ii) H^+

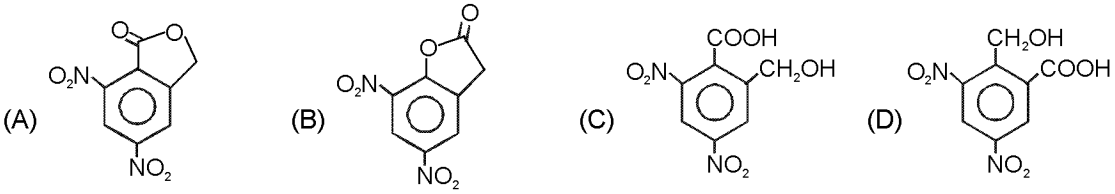
(C) (i) H^+, Δ (ii) OH^-

(D) (i) $NaBH_4$ (ii) H^+

3.

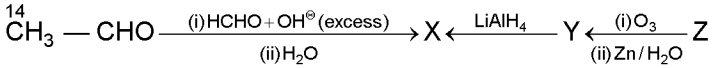


Product is

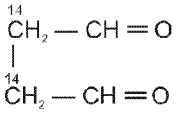


Comprehension (Q. 4 to 6)

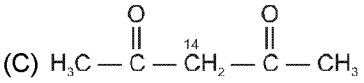
Acetaldehyde with one labelled carbon (C – 14) is treated with excess of formaldehyde in presence of alkali to form the compound X. Compound X can also be formed when compound Z undergoes reductive ozonolysis followed by treatement with $LiAlH_4$.

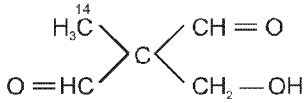


4. The compound Y can be :

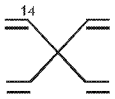
(A) 

(B) 

(C) 

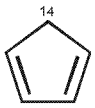
(D) 

5. The compound Z is :

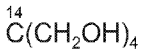
(A) 

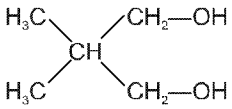
(B) 

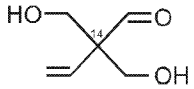
(C) 

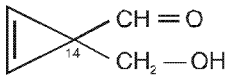
(D) 

6. The compound X is :

(A) 

(B) 

(C) 

(D) 

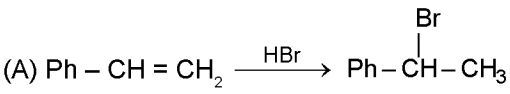
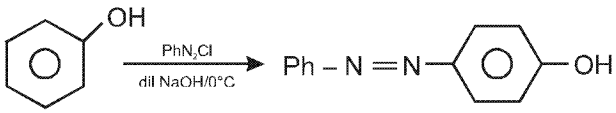
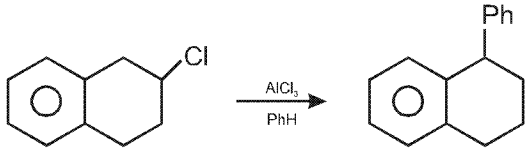
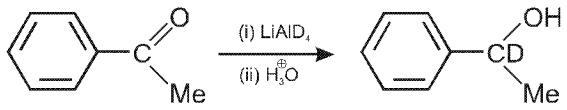
7. p-Toluidine and p-cresol are distinguished by using $NaNO_2/HCl/0°C$ followed by β-Naphthol.

8. $CH_3—CH=O + CH_3CH_2—CH=O \xrightarrow{HO^{\ominus}, \Delta}$ mixture of aldols

(z) total number of aldols including stereoisomers.

Report your answer as (z – 5).

9. Match the reaction in column-I with appropriate option in column II.

Column-I	**Column-II**
(A) 	(p) Substitution reaction
(B) 	(q) Addition reaction
(C) 	(r) Coupling reaction
(D) 	(s) Racemic mixture
	(t) Carbocation intermediate

Answer Key

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1.	(D)	**2.**	(B	**3.**	(A)	**4.**	(B)	**5.**	(C)
6.	(A)	**7.**	True	**8.**	07	**9.**	(A - q, t) (B - p, r) (C- p, s, t) (D - q, s)		

Hints & Solutions

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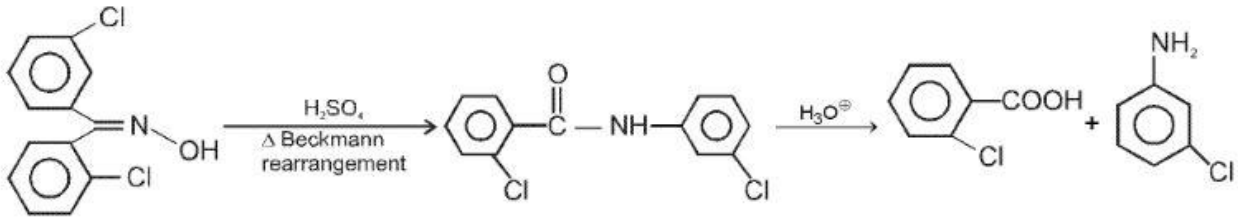
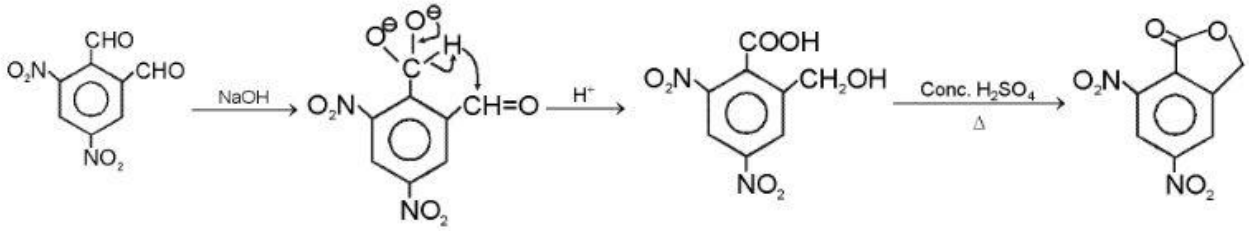
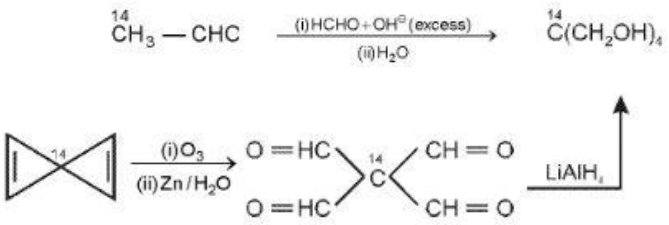
1.



3.



6.



7. p-Toluidine has aromatic $-NH_2$ group which gives orange red dye with $NaNO_2/HCl$ and β-Naphthol, while p-cresol does not give this test.

8.