

**Topic : Carboxylic Acids**
**Type of Questions**

Single choice Objective ('-1' negative marking) Q.1 to Q.4

(3 marks 3 min.)

M.M., Min.

Fill in the Blanks ('-1' negative marking) Q.5

(3 marks 3 min.)

[12, 12]

Comprehension ('-1' negative marking) Q.6 to Q.8

(3 marks 3 min.)

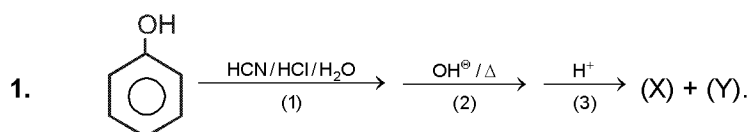
[3, 3]

Subjective Questions ('-1' negative marking) Q.9

(4 marks 5 min.)

[9, 9]

[4, 5]



X gives white turbidity with Lucas reagent instantly.

X, Y both turn blue litmus solution red.

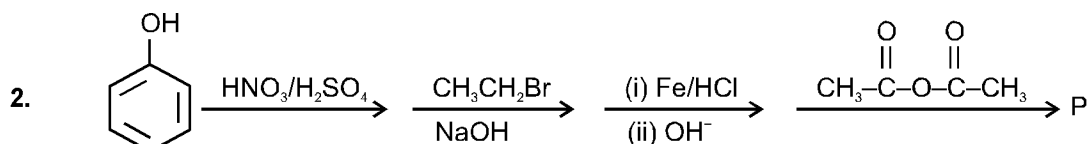
'Y' can be :

(A) p-Hydroxy benzoic acid

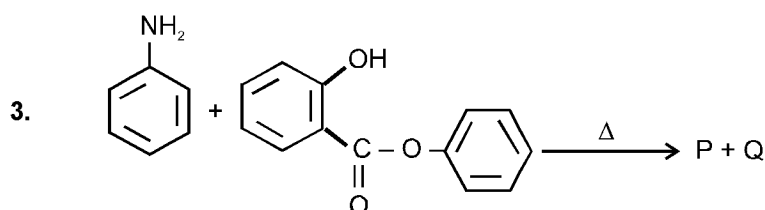
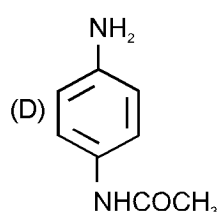
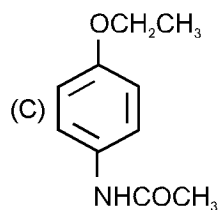
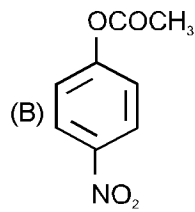
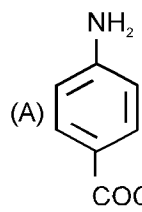
(B) p-Hydroxybenzaldehyde

(C) m-Hydroxy benzoic acid

(D) p-Hydroxy benzyl alcohol



Product P is phenacetin (an analgesic). Its structure will be :



Correct statement(s) is/are -

(A) P is an acid

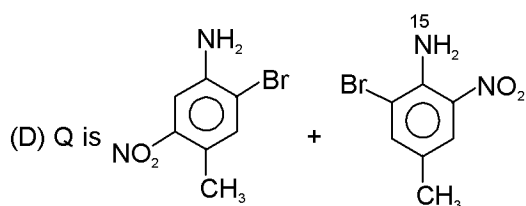
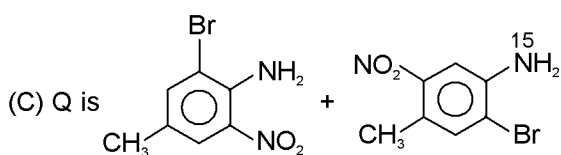
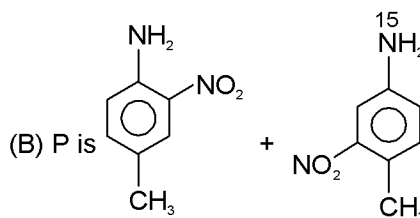
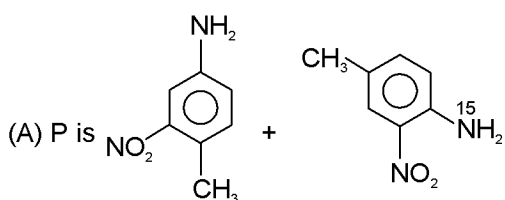
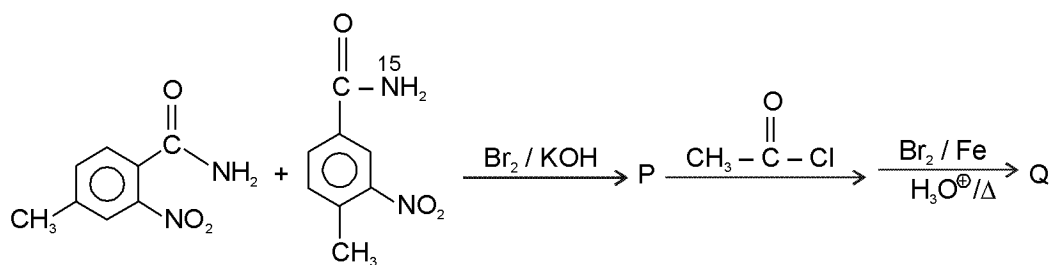
(B) Q is Phenol

(C) P is an amide

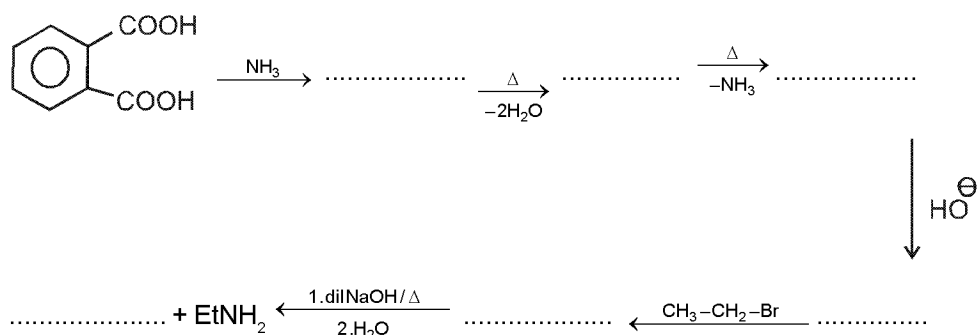
(D) Q is a hydroxy acid



4. The correct option for products P and Q in the following sequence of reaction is / are

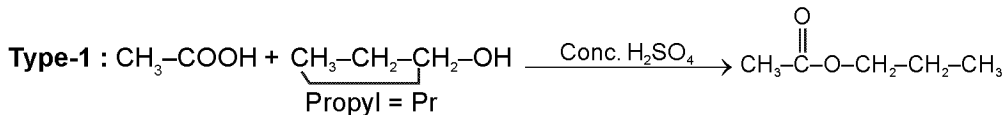


5. Fill in the balnks

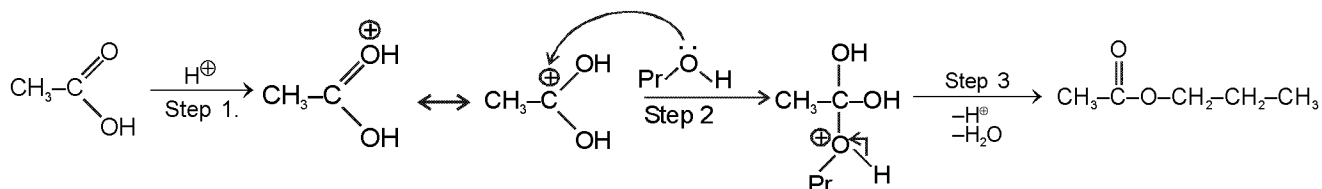


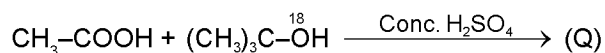
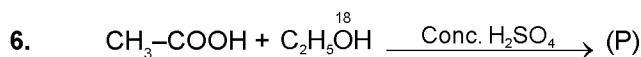
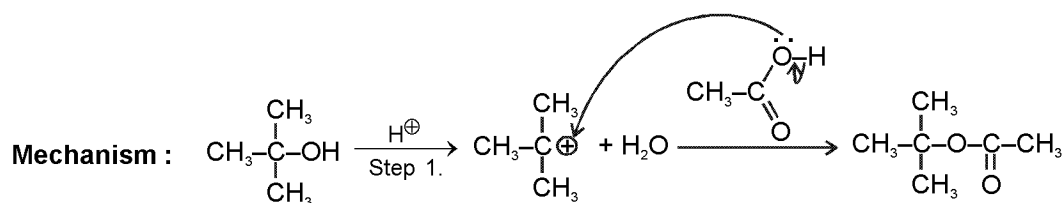
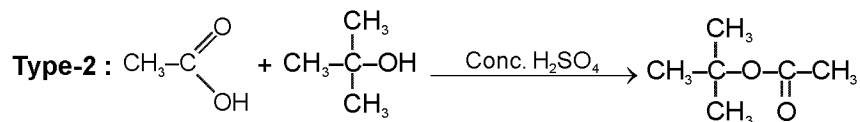
Comprehension # (Q.6 to 8)

Observe the esterification mechanisms for primary and tertiary alcohols.

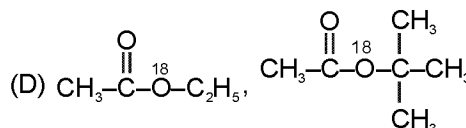
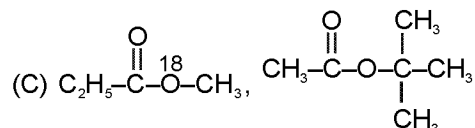
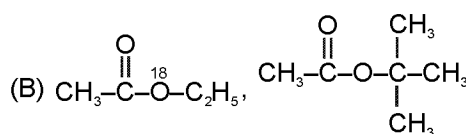
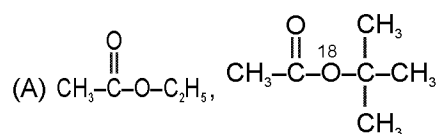


Mechanism :





In the above reaction (P) and (Q) are respectively :



7. In type I and II mechanism RDS respectively is

(A) Step I and step II

(B) Step II and step I

(C) Step I and step I

(D) Step III and step II

8. In step I of the type I mechanism and step II of the type II mechanism, the molecule of carboxylic acid behaves respectively as

(A) Acid and acid

(B) Base and base

(C) Acid and base

(D) Base and acid

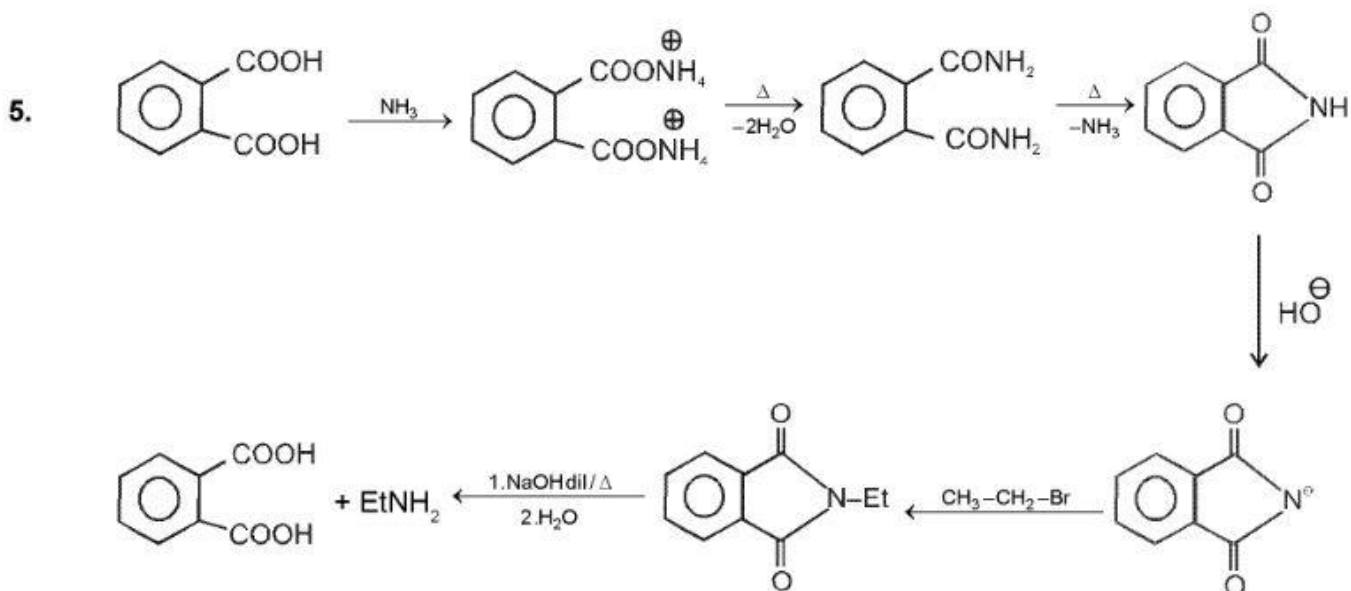
9. An organic compound (A) ( $\text{C}_{18}\text{H}_{20}\text{O}$ ) on ozonolysis gives two aromatic compounds (B)  $\text{C}_{10}\text{H}_{12}\text{O}$  and (C)  $\text{C}_8\text{H}_8\text{O}_2$ . (C) on mild oxidation followed by treating with HI produces p-hydroxybenzoic acid and methyl iodide. (B) gives positive iodoform test and produces an oxime (D)  $\text{C}_{10}\text{H}_{13}\text{ON}$  on treating with  $\text{NH}_2\text{OH}$ . (D) undergoes rearrangement in acidic media to give (E) which on acid hydrolysis gives (F) along with a monobasic acid of molecular mass 60. (F) on treating with  $\text{NaNO}_2$ , HCl followed by oxidation and heating forms anhydride G. Assign structures from A to G with proper reasoning.



# Answer Key

## DPP No. # 29

1. (A)      2. (C)      3.\* (BC)      4.\* (BC)



6. (B)      7. (B)      8. (B)      9. (A) →

# Hints & Solutions

## DPP No. # 29

