

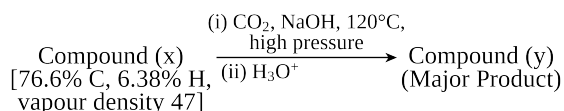
JEE MAIN ALCOHOLS, PHENOLS AND ETHERS — REACTIONS OF PHENOLS — PYQS

Max. Marks: 16

Questions: 4

Section A (MCQ) — 2 questions

Q.1 Consider the following reaction sequence :



Compound (y) develops characteristic colour with neutral FeCl_3 solution.

Identify the **INCORRECT** statement from the following for the above sequence.

[JEE Main 2026 (Online) 28th January Morning Shift]

- (1) Compound y will dissolve in NaHCO_3 and evolve a gas.
- (2) Compound x is more acidic than compound y.
- (3) Both compounds x and y will dissolve in NaOH .
- (4) Both compounds x and y will burn with sooty flame.

Scan or tap for the full solution



Q.2 Given below are two statements :

Statement-I: Phenol on treatment with $\text{CHCl}_3/\text{aq. KOH}$ under refluxing condition, followed by acidification produces p-hydroxybenzaldehyde as the major product and o-hydroxybenzaldehyde as the minor product.

Statement-II: The mixture of p-hydroxybenzaldehyde and o-hydroxybenzaldehyde can be easily separated through steam distillation.

In the light of the above statements, choose the correct answer from the options given below

[JEE Main 2026 (Online) 22nd January Morning Shift]

- (1) Statement-I is true but Statement-II is false
- (2) Both Statement-I and Statement-II are true
- (3) Both Statement-I and Statement-II are false
- (4) Statement-I is false but Statement-II is true

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Section B (Numerical) — 2 questions

Q.3 4.7 g of phenol is heated with Zn to give product X. If this reaction goes to 60% completion then the number of moles of compound X formed will be _____ $\times 10^{-2}$. (Nearest Integer)
(Given molar mass in g mol^{-1} : H:1, C:12, O:16)

[JEE Main 2026 (Online) 6th April Morning Shift]

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Q.4 One mole of phenol is treated with dilute HNO_3 at 298 K to give a mixture of products. The mixture is separated by steam distillation. The steam volatile compound (X) is separated. The increase in percentage of oxygen in (X) with respect to phenol is _____ $\times 10^{-1}\%$
(Given molar mass in g mol^{-1} H : 1, C : 12, N : 14, O : 16)

[JEE Main 2026 (Online) 5th April Morning Shift]

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ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2								
Ans.	2	4								

Section B (Numerical) — 2 questions

Ques.	3	4					
Ans.	3	175					