

## PART 1 - CHEMISTRY

Topic : Alcohols, phenols and ethers

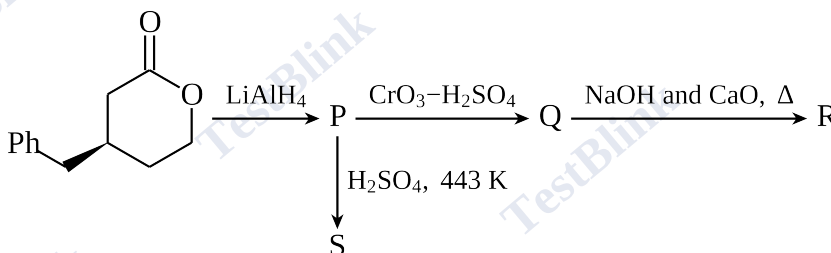
## SECTION-A : (Maximum Marks : 8)

- This section contains **TWO** questions.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONE OR MORE THAN ONE** of these four option(s) is(are) correct answer(s).
- For each question, choose the option(s) corresponding to (all) the correct answer(s).
- Answer to each question will be evaluated according to the following marking scheme :
 

|                |      |                                                                                                  |
|----------------|------|--------------------------------------------------------------------------------------------------|
| Full Marks     | : +4 | ONLY if (all) the correct option(s) is(are) chosen;                                              |
| Partial Marks  | : +3 | If all the four options are correct but ONLY three options are chosen;                           |
| Partial Marks  | : +2 | If three or more options are correct but ONLY two options are chosen, both of which are correct; |
| Partial Marks  | : +1 | If two or more options are correct but ONLY one option is chosen and it is a correct option;     |
| Zero Marks     | : 0  | If none of the options is chosen (i.e. the question is unanswered);                              |
| Negative Marks | : -1 | In all other cases.                                                                              |
- For example, in a question, if **(A), (B) and (D)** are the ONLY three options corresponding to correct answers, then choosing ONLY (A), (B) and (D) will get +4 marks; choosing ONLY (A) and (B) will get +2 marks; choosing ONLY (A) and (D) will get +2 marks; choosing ONLY (B) and (D) will get +2 marks; choosing ONLY (A) will get +1 mark; choosing ONLY (B) will get +1 mark; choosing ONLY (D) will get +1 mark; choosing no option (i.e. the question is unanswered) will get 0 marks; and choosing any other combination of options will get -1 marks.

1. For the reaction sequence given below, the correct statement(s) is(are)

[JEE Advanced 2025 Paper 2]



- (A) P is optically active. (B) S gives Bayer's test.  
 (C) Q gives effervescence with aq.  $\text{NaHCO}_3$ . (D) R is an alkyne.

Scan or tap for the full solution

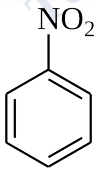
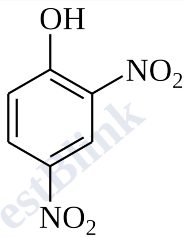
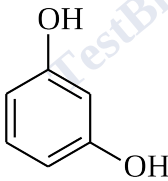
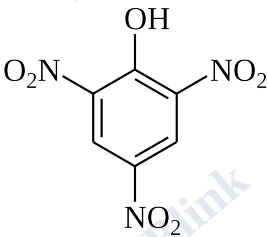
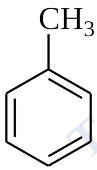
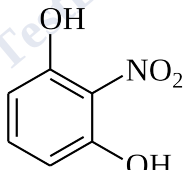
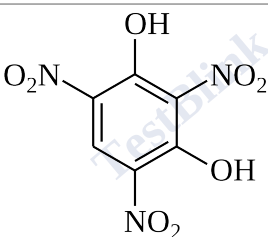


2. **List-I** contains various reaction sequences and **List-II** contains different phenolic compounds. Match each entry in **List-I** with the appropriate entry in **List-II** and choose the correct option.

[JEE Advanced 2024 Paper 1]

| List-I |  | List-II |  |
|--------|--|---------|--|
| P.     |  | 1.      |  |

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| List-I |                                                                                                                                                                                                                                                                                                                                                                                                    | List-II |                                                                                      |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------------|
| Q.     |  $\xrightarrow[\text{v) Conc. HNO}_3 / \text{Conc. H}_2\text{SO}_4]{\begin{array}{l} \text{i) Conc. HNO}_3 / \text{Conc. H}_2\text{SO}_4 \\ \text{ii) Sn / HCl} \\ \text{iii) NaNO}_2 / \text{HCl, } 0 - 5^\circ\text{C,} \\ \text{iv) H}_2\text{O} \end{array}}$                                                 | 2.      |   |
| R.     |  $\xrightarrow[\text{iii) H}_3\text{O}^+, \Delta]{\begin{array}{l} \text{i) Conc. H}_2\text{SO}_4 \\ \text{ii) Conc. HNO}_3 \end{array}}$                                                                                                                                                                         | 3.      |   |
| S.     |  $\xrightarrow[\text{v) NaNO}_2 / \text{HCl, } 0 - 5^\circ\text{C}]{\begin{array}{l} \text{i) a) KMnO}_4 / \text{KOH, } \Delta; \text{ b) H}_3\text{O}^+ \\ \text{ii) Conc. HNO}_3 / \text{Conc. H}_2\text{SO}_4, \Delta \\ \text{iii) a) SOCl}_2, \text{ b) NH}_3 \\ \text{iv) Br}_2, \text{ NaOH} \end{array}}$ | 4.      |   |
|        |                                                                                                                                                                                                                                                                                                                                                                                                    | 5.      |  |

(A) P-2, Q-3, R-4, S-5

(B) P-2, Q-3, R-5, S-1

(C) P-3, Q-5, R-4, S-1

(D) P-3, Q-2, R-5, S-4

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Space for Rough Work

## SECTION-B : (Maximum Marks : 4)

- This section contains **ONE** question.
- The answer to each question is a **NON-NEGATIVE INTEGER**.
- For each question, enter the correct integer corresponding to the answer in the place designated to enter the answer.
- Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct answer is entered;

Zero Marks : 0 In all other cases.

3. An organic compound P having molecular formula  $C_6H_6O_3$  gives ferric chloride test and does not have intramolecular hydrogen bond. The compound P reacts with 3 equivalents of  $NH_2OH$  to produce oxime Q. Treatment of P with excess methyl iodide in the presence of KOH produces compound R as the major product. Reaction of R with excess iso-butylmagnesium bromide followed by treatment with  $H_3O^+$  gives compound S as the major product.

The total number of methyl ( $-CH_3$ ) group(s) in compound S is \_\_\_\_\_.

[JEE Advanced 2024 Paper 2]

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full solution




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Space for Rough Work

## JEE ADVANCED ALCOHOLS, PHENOLS AND ETHERS — PYQS

Test Pattern : **JEE (Advanced)**

## ANSWER KEY

## SECTION-A

[illegible]

## SECTION-B

[illegible]