

PART 1 - CHEMISTRY

Topic : Principles related to practical chemistry

SECTION-A : (Maximum Marks : 12)

This section contains **THREE** questions.

Each question has **TWO** lists: **List-I** and **List-II**.

Four options are given representing matching of elements from List-I and List-II. **ONLY ONE** of these four options corresponds to a correct matching.

For each question, choose the option corresponding to the correct answer.

Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct option is chosen;

Zero Marks : 0 If none of the options is chosen (i.e. the question is unanswered);

Negative Marks : -1 In all other cases.

1. The correct match of the group reagents in **List-I** for precipitating the metal ion given in **List-II** from solutions, is [JEE Advanced 2025 Paper 1]

List-I		List-II	
P.	Passing H_2S in the presence of NH_4OH	1.	Cu^{2+}
Q.	$(\text{NH}_4)_2\text{CO}_3$ in the presence of NH_4OH	2.	Al^{3+}
R.	NH_4OH in the presence of NH_4Cl	3.	Mn^{2+}
S.	Passing H_2S in the presence of dilute HCl	4.	Ba^{2+}
		5.	Mg^{2+}

(A) $\text{P} \rightarrow 3$; $\text{Q} \rightarrow 4$; $\text{R} \rightarrow 2$; $\text{S} \rightarrow 1$

(B) $\text{P} \rightarrow 4$; $\text{Q} \rightarrow 2$; $\text{R} \rightarrow 3$; $\text{S} \rightarrow 1$

(C) $\text{P} \rightarrow 3$; $\text{Q} \rightarrow 4$; $\text{R} \rightarrow 1$; $\text{S} \rightarrow 5$

(D) $\text{P} \rightarrow 5$; $\text{Q} \rightarrow 3$; $\text{R} \rightarrow 2$; $\text{S} \rightarrow 4$

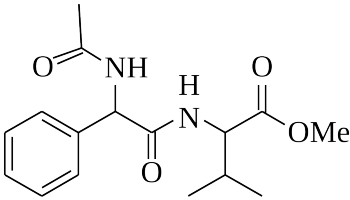
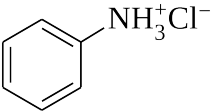
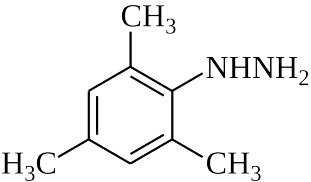
Scan or tap for the full solution



2. Match the compounds in **List-I** with the appropriate observations in **List-II** and choose the correct option. [JEE Advanced 2025 Paper 1]

List-I		List-II	
P.		1.	Reaction with phenyl diazonium salt gives yellow dye.

Space for Rough Work

List-I		List-II	
Q.		2.	Reaction with ninhydrin gives purple color and it also reacts with FeCl_3 to give violet color.
R.		3.	Reaction with glucose will give corresponding hydrazone.
S.		4.	Lassaigne extract of the compound treated with dilute HCl followed by addition of aqueous FeCl_3 gives blood red color.
		5.	After complete hydrolysis, it will give ninhydrin test and it DOES NOT give positive phthalein dye test.

(A) $\text{P} \rightarrow 1; \text{Q} \rightarrow 5; \text{R} \rightarrow 4; \text{S} \rightarrow 2$

(B) $\text{P} \rightarrow 2; \text{Q} \rightarrow 5; \text{R} \rightarrow 1; \text{S} \rightarrow 3$

(C) $\text{P} \rightarrow 5; \text{Q} \rightarrow 2; \text{R} \rightarrow 1; \text{S} \rightarrow 4$

(D) $\text{P} \rightarrow 2; \text{Q} \rightarrow 1; \text{R} \rightarrow 5; \text{S} \rightarrow 3$

Scan or tap for the full solution



3. During sodium nitroprusside test of sulphide ion in an aqueous solution, one of the ligands coordinated to the metal ion is converted to

[JEE Advanced 2025 Paper 2]

(A) NOS^-

(B) SCN^-

(C) SNO^-

(D) NCS^-

Scan or tap for the full solution



Space for Rough Work

JEE ADVANCED PRINCIPLES RELATED TO PRACTICAL CHEMISTRY — PYQS

Test Pattern : **JEE (Advanced)**

ANSWER KEY

SECTION-A

[illegible]