# PART 1 - MATHEMATICS

**Topic :** Permutations and combinations

## SECTION–1 : (Maximum Marks : 12)

- This section contains **THREE** questions.
- 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.

**1.** The number of ways to distribute 10 identical red pens and 14 identical blue pens among four persons such that each person gets 6 pens, is _____. [JEE Advanced 2026 Paper 1]

Scan or tap for the full solution

**2.** Let S be the set of all seven-digit numbers that can be formed using the digits 0, 1 and 2. For example, 2210222 is in S, but 0210222 is NOT in S.
Then the number of elements x in S such that at least one of the digits 0 and 1 appears exactly twice in x, is equal to _____. [JEE Advanced 2025 Paper 1]

Scan or tap for the full solution

**3.** A group of 9 students, $s_1, s_2, \ldots, s_9$, is to be divided to form three teams X,Y, and Z of sizes 2,3, and 4, respectively. Suppose that $s_1$ cannot be selected for the team X, and $s_2$ cannot be selected for the team Y. Then the number of ways to form such teams, is _____. [JEE Advanced 2024 Paper 1]

Scan or tap for the full solution

**Space for Rough Work**

# JEE ADVANCED PERMUTATIONS AND COMBINATIONS — PYQS

Test Pattern : **JEE (Advanced)**

## ANSWER KEY

| SECTION–1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Ques.** | 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Ans.** | **206** | **762** | **665** | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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