PYQSide

JEE MAIN PERMUTATIONS AND COMBINATIONS — FUNDAMENTAL PRINCIPLE OF COUNTING — PYQS

Max. Marks: 24 **Questions:** 6

Section A (MCQ)

Q.1 The number of different 5 digit numbers greater than 50000 that can be formed using the digits 0, 1, 2, 3, 4, 5, 6, 7, such that the sum of their first and last digits should not be more than 8, is

[JEE Main 2025 (Online) 28th January Morning Shift]

(1) 5720 (2) 5719 (3) 4608 (4) 4607

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Section B (Numerical)

Q.2 Three persons enter in a lift at the ground floor. The lift will go up to 10^{th} floor. The number of ways, in which the three persons can exit the lift at three different floors, if the lift does not stop at first, second and third floors, is equal to _____.

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

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Q.3 The number of numbers greater than 5000, less than 9000 and divisible by 3, that can be formed using the digits 0, 1, 2, 5, 9, if the repetition of the digits is allowed, is _____

[JEE Main 2026 (Online) 24th January Morning Shift]

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Q.4 Let $S = \{(m, n) : m, n \in \{1, 2, 3, \ldots, 50\}\}$. If the number of elements (m, n) in S such that $6^m + 9^n$ is a multiple of 5 is p and the number of elements (m, n) in S such that m + n is a square of a prime number is q, then p + q is equal to _____.

[JEE Main 2026 (Online) 21st January Morning Shift]

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Q.5 Let m and n, (m < n), be two 2-digit numbers. Then the total number of pairs (m, n), such that $\gcd(m, n) = 6$, is _____.

[JEE Main 2025 (Online) 4th April Evening Shift]

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Q.6 If the number of seven-digit numbers, such that the sum of their digits is even, is $m \cdot n \cdot 10^n$; $m, n \in \{1, 2, 3, \ldots, 9\}$, then m + n is equal to _____

[JEE Main 2025 (Online) 3rd April Morning Shift]

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ANSWER KEY

Section A (MCQ)

Ques.	1									
Ans.	**4**									

Section B (Numerical)

Ques.	2	3	4	5	6		
Ans.	**210**	**42**	**1333**	**64**	**14**		

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