

JEE MAIN BINOMIAL THEOREM — DIVISIBILITY AND REMAINDER PROBLEMS (JEE) — PYQS

Max. Marks: 16

Questions: 4

Section A (MCQ) — 3 questions

- Q.1** Given below are two statements :
Statement-I: $25^{13} + 20^{13} + 8^{13} + 3^{13}$ is divisible by 7.
Statement-II: The integral part of $(7 + 4\sqrt{3})^{25}$ is an odd number.
 In the light of the above statements, choose the **correct answer** from the options given below :
 [JEE Main 2026 (Online) 28th January Evening Shift]
 (1) Statement-I is false but Statement-II is true
 (2) Both Statement-I and Statement-II are false
 (3) Both Statement-I and Statement-II are true
 (4) Statement-I is true but Statement-II is false

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- Q.2** The remainder when $((64)^{(64)})^{(64)}$ is divided by 7 is equal to [JEE Main 2025 (Online) 7th April Morning Shift]
 (1) 4 (2) 6 (3) 3 (4) 1

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- Q.3** The remainder, when 7^{103} is divided by 23, is equal to: [JEE Main 2025 (Online) 29th January Evening Shift]
 (1) 9 (2) 6 (3) 14 (4) 17

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Section B (Numerical) — 1 question

- Q.4** The product of the last two digits of $(1919)^{1919}$ is [JEE Main 2025 (Online) 8th April Evening Shift]

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ANSWER KEY

Section A (MCQ) — 3 questions

Ques.	1	2	3										
Ans.	3	4	3										

Section B (Numerical) — 1 question

Ques.	4												
Ans.	63												