

PART 1 - MATHEMATICS

Topic : Probability (class 12)

SECTION-B : (Maximum Marks : 4)

- This section contains **ONE** question.
- The answer to each question is a **NUMERICAL VALUE**.
- For each question, enter the correct numerical value of the answer (in decimal notation, truncated / rounded-off to the **SECOND DECIMAL PLACE**; e.g. 6.25, 7.00, -0.33, -.30, 30.27, -127.30) 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. A factory has a total of three manufacturing units, M_1 , M_2 , and M_3 , which produce bulbs independent of each other. The units M_1 , M_2 , and M_3 produce bulbs in the proportions of 2:2:1, respectively. It is known that 20% of the bulbs produced in the factory are defective. It is also known that, of all the bulbs produced by M_1 , 15% are defective. Suppose that, if a randomly chosen bulb produced in the factory is found to be defective, the probability that it was produced by M_2 is $\frac{2}{5}$.

If a bulb is chosen randomly from the bulbs produced by M_3 , then the probability that it is defective is _____.

[JEE Advanced 2025 Paper 2]

Scan or tap for the
full solution



Space for Rough Work

**JEE ADVANCED PROBABILITY (CLASS 12) — TOTAL
PROBABILITY THEOREM — PYQS**

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-B

Ques.	1											
Ans.	0.27 to 0.33											