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<b>Class</b>	XII	<b>Subject</b>	Mathematics (041)
<b>Chapter</b>	13 - Probability	<b>Time Allowed</b>	16 Minutes
<b>Maximum Marks</b>	8	<b>Date</b>	_____

**GENERAL INSTRUCTIONS:**

1. This question paper contains **4 questions** from Chapter 13 - Probability.
2. All questions are compulsory.
3. Questions 1-2 carry **1 mark each**.
4. Question 3 carries **2 marks**.
5. Question 4 carries **4 marks**.
6. Show all steps of your calculations clearly.
7. Use proper mathematical notation and terminology.

**HOW TO SUBMIT:**

1. Solve this question paper in your notebook or on loose sheets.
2. Clearly write your **Name, CBSE Roll Number, School Name, Place, and Date** on the first page.
3. Upload your solved paper at our website: [www.mathlove.in](http://www.mathlove.in)
4. Check your **detailed report card on the website** after evaluation.
5. For any queries or assistance, WhatsApp us at **+91-7869553517**

**SECTION A - 1 MARK QUESTIONS ( $2 \times 1 = 2$  Marks)**

**Q1.** If  $P(A) = 0.4$ ,  $P(B) = 0.8$  and  $P(B|A) = 0.6$ , find  $P(A \cup B)$ . [1]

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**Q2.** Events E and F are such that  $P(\text{not } E \text{ or not } F) = 0.25$ . State whether E and F are mutually exclusive. [1]

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**SECTION B - 2 MARKS QUESTION ( $1 \times 2 = 2$  Marks)**

**Q3.** A die is thrown twice and the sum of the numbers appearing is observed to be 7. What is the conditional probability that the number 3 has appeared at least once? [2]

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**SECTION C - 4 MARKS QUESTION ( $1 \times 4 = 4$  Marks)**

**Q4.** A manufacturer has three machine operators A, B and C. The first operator A produces 1% defective items, whereas the other two operators B and C produce 5% and 7% defective items respectively. A is on the job for 50% of the time, B on the job for 30% of the time and C on the job for 20% of the time. All the items are put into one stockpile and then one item is chosen at random from this and is found to be defective. What is the probability that it was produced by A? [4]

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