

By. Er. Dharmendra Sir

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DPM CLASSES

6th to 10th (Math's & Science), 11th & 12th (Physics, Chemistry, Math's)

TEST - PAPER (CBSE/NCERT)

PROBABILITY PART -2

SESSION -2024-25

CLASS - 12th

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Time: 1hr

:- Test - probability :-

mm: 45

Q.1. If X follows Binomial distribution with Parameters $n=5$, p and $P(X=2) = 9P(X=3)$, then p is equal to

Q.2. If A and B are two Events such that $P(A|B) = P$, $P(A) = P$, $P(B) = \frac{1}{3}$ and $P(A \cup B) = \frac{5}{9}$, then p is equal to



Q.3. If a box has 100 pens of which 10 are defective, then what is the probability that out of a sample of 5 pens drawn one by one with replacement at most one is defective?

Q.4. The probability distribution of a discrete random variable x is given below:

x	2	3	4	5
$P(x)$	$\frac{5}{K}$	$\frac{7}{K}$	$\frac{9}{K}$	$\frac{11}{K}$

The value of K .



Q.5. Two Events E and F are independent. If $P(E) = 0.3$ and $P(E \cup F) = 0.5$ then $P(F|F) - P(F|E)$ equal to.

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Q.6. If $P(B) = \frac{3}{5}$, $P(A/B) = \frac{1}{2}$, and $P(A \cup B) = \frac{4}{5}$,
then $P(A \cup B)' + P(A' \cup B)$ is equal to.

Q.7. If $P(A) = \frac{2}{5}$, $P(B) = \frac{3}{10}$ and $P(A \cap B) = \frac{1}{5}$,
then $P(A/B') \cdot P(B'/A')$ is equal to.

Q.8. There are 5 Card numbered 1 to 5. one number on one Card. two Cards are drawn at random without replacement. Let x denotes the sum of the numbers on two Cards drawn. Find the mean and variance of x .

Q.9. The probability distribution of a random variable x is given as under.

$$P(x) = \begin{cases} Kx^2, & x=1,2,3 \\ 2Kx, & x=4,5,6 \\ 0, & \text{otherwise} \end{cases}$$



Where K is a constant, calculate

(i) $E(x)$, (ii) $E(3x^2)$ (iii) $P(x \geq 4)$

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