

Model Question paper 1

Probability 1

11th Standard

Maths

Reg.No. :

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I. Answer all the questions.

II. Use blue pen only.

Time : 02:00:00 Hrs

Total Marks : 50

5 x 1 = 5

Part -A

- 1) When three dice are rolled, number of elementary events are.....
(a) 2^3 (b) 3^6 (c) 6^3 (d) 3^2
- 2) Three coins are tossed. The probability of getting at least two heads is
(a) $3/8$ (b) $7/8$ (c) $1/8$ (d) $1/2$
- 3) If $P(A) = 0.35$, $P(B) = 0.73$ and $P(A \cap B) = 0.14$. Then $P(\bar{A} \cup \bar{B})$
(a) 0.94 (b) 0.06 (c) 0.86 (d) 0.14
- 4) If A and B are two events such that $P(A) = 0.16$, $P(B) = 0.24$ and $P(A \cap B) = 0.11$, then the probability of obtaining only one of the two events is
(a) 0.29 (b) 0.71 (c) 0.82 (d) 0.18
- 5) Two events A and B are independent, then $P(A/B) = \dots\dots\dots$
(a) $P(A)$ (b) $P(A \cap B)$ (c) $P(A) = P(B)$ (d) $\frac{P(A)}{P(B)}$

Part -B

5 x 2 = 10

- 6) An experiment has the four possible mutually exclusive outcomes A,B,C, D. Check whether the following assignments of probability are permissible.
 $P(A)=0.30, P(B)=0.28, P(C)=0.26, P(D)=0.18$
- 7) An experiment has the four possible mutually exclusive outcomes A,B,C, D. Check whether the following assignments of probability are permissible.
 $P(A)=0.32, P(B)=0.28, P(C)=-0.06, P(D)=0.46$
- 8) In a single throw of two dice, find the probability of obtaining (i) sum of less than 5 (ii) a sum of greater than 10, (iii) a sum of greater than 10, (iii) a sum of 9 or 11.
- 9) Bag A contains 5 white, 6 black balls and bag B contains 4 white, 5 black balls. One bag is selected at random and one ball is drawn from it. Find the probability that it is white.
- 10) There are two identical boxes containing respectively 5 white and 3 red balls, 4 white and 6 red balls. A box is chosen at random and a ball is drawn from it find the probability that the ball is white?

Part -C

5 x 3 = 15

- 11) If A and B are mutually exclusive events $P(A)=0.28$, $P(B)=0.44$, find $P(A \cup B)$
- 12) If A and B are mutually exclusive events $P(A)=0.28$, $P(B)=0.44$, find $P(\bar{A} \cap \bar{B})$
- 13) Given $P(A)=0.5, P(B)=0.6$ and $(A \cap B)=0.24$..
 $P(\bar{A} \cap B)$
- 14) Given $P(A)=0.5, P(B)=0.6$ and $(A \cap B)=0.24$..
 $P(\bar{A} \cup \bar{B})$
- 15) A die is thrown twice. Let A be the event, "First die shows 4" and B be the event, "second die shows 4". Find $P(A \cup B)$

Part -D

4 x 5 = 20

- 16) If A and B are independent, prove that $\bar{A}$ and $\bar{B}$ are independent.
- 17) If A and B are two independent events such that $P(A \cup B) = 0.6$,
 $P(A) = 0.2$ find $P(B)$
- 18) Given $P(A)=0.50$, $P(B)=0.40$ and $P(A \cap B)=0.20$ Verify $P(B/\bar{A})=P(B)$
- 19) Given that $P(A) = 0.35$, $P(B) = 0.73$ and $P(A \cap B) = 0.14$, find $P(\bar{A} \cap B)$
