Model Question paper

Probability 3

11th Standard

Maths

Reg.No. : | | | | | | |

I. Answer all the questions.

II. Use blue pen only.

Time : 02:00:00 Hrs

Total Marks : 50

Part - A

5 x 1 = 5

1) 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

2) A and B are two events such that P(A) $\neq$ 0, P(B) $\neq$ 0. If A and B are mutually exclusive, then.....

(a) P(A $\cap$ B) = P(A) P(B) (b) P(A $\cap$ B) $\neq$ P(A). P(B) (c) P(A/B) = P(A) (d) P(B/A) = P(A)

3) X speaks truth 95 percent of cases and Y in 80 percent of cases. The Percentage of cases they likely to contradict each other in stating same fact is .....

(a) 14% (b) 86% (c) 23% (d) 85.5%

4) Given P(A) = 0.50, P(B) = 0.40 and P(A $\cap$ B) = 0.20 then P(A/$\bar{B}$)

(a) 0.50 (b) 0.40 (c) 0.70 (d) 0.10

5) Probability of an impossible event is

(a) 1 (b) 0 (c) 2 (d) Φ

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)=1/2,P(B)=1/4,P(C)=2/9,P(D)=5/18

8) In a box containing 10 bulbs, 2 are defective. What is the probability that among 5 bulbs chosen at random, none is defective.

9) 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 if the ball is white, what is the probability that it is from the first box?

10) Three urns are given each containing red and white chips as given below.Urn I : 6 red 4 white ; Urn II : 3 red 5 white ; Urn III : 4 red 6 white An urn is chosen at random and a chip is drawn from the urn.If the chip is white find the probability that it is from urn II.

Part - C

5 x 3 = 15

11) A and B are two events associated with random experiment for which P(A)=0.36, P(A)=0.36, P(A or B)=0.09 and P(A and B)=0.25. Find (i) P(B), (ii) $P(\bar{A} \cap \bar{B})$

12) If A and B are mutually exclusive events P(A)=0.28, P(B)=0.44, find

$(A \cap \bar{B})$

13) Given P(A)=0.5,P(B)=0.6 and $(A \cap B)$=0.24.

$P(A \cup B)$

14) A card is drawn at random from a deck of 52 cards. What is the probability that the drawn card is (i) a queen or club card (ii) a queen or a black card

15) (Additive theorem on probability) If A and B are any two events

$P(A \cup B) = P(A) + P(B) - P(A \cap B)$

Part - D

4 x 5 = 20

16) if the events such A and B are independent and P(A)=0.25, P(B)=0.48, find P(B/A)

17) A cricket club has 15 members, of whom only 5 can bowl.What is the probability that in a team of 11 members atleast 3 bowlers are selected?

18) If P(A) = 0.4 P(B) = 0.5 P(A $\cap$ B) = 0.25 find

P(B/A)

19) A coin is tossed twice. Event E and F are defined as follows: E = Head on first toss, F = head on second toss.Find

P(E/F)

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