PROBABILITY

AXIOMATIC APPROACH TO PROBABILITY

EXERICSE

Q.1 In a game, if the probability of player A scoring a point is 0.5, the probability of player B scoring a point is 0.2, and the probability that both of them score a point is 0.1, then the probability that at most one of them scores is .

(A) 0.4 (B) 0.9 (C) 0.7 (D) 0.6

Q.2 Consider events A and B in the sample space of a random experiment where every outcome is equally likely. The number of outcomes in A is 7, the number of outcomes in B is 14, and the number of outcomes that are common to both A and B is 5.If $(A \cup B) = \frac{2}{3}$,then $P(A' \cup B')$=___.

(A) $\frac{11}{12}$ (B)$\frac{19}{24}$ (C)$\frac{7}{24}$ (D)$\frac{7}{12}$

Q.3 P(A' ∪ B)= 0.45 and P(A ∩ B)=0.25 then P(A)=____.

(A) 0.8 (B) 0.7 (C) 0.3 (D) 0.2

Q.4 In a solitary roll of two dice, determine:

(i) P (odd number on first die and 6 on the second)

(ii) P (a number > 4 on each die)

(iii) P (a total of 11)

(iv) P (a total of 9 or 11)

(v) P (a total of 11 or 12)

(vi) P (a total of 10 or 12)

(vii) P (a total of 9 or 10)

(viii) P (a total of 10 or 11)

(ix) P (a total of 8 or 9)

(x) P (a total > 8).

Q.5 An urn holds 9 red, 7 white, and 4 black balls. If a ball is selected randomly, what is the probability that the drawn ball is:

(i) Red (ii) White (iii) Red or black

(iv) White or black (v) Not red?

ANSWER KEY

1. (B) 0.9

2. (B) $\frac{19}{24}$

3. (A) 0.8

4. (i) $\frac{1}{12}$ (ii) $\frac{1}{9}$ (iii) $\frac{1}{18}$ (iv) $\frac{1}{6}$ (v) $\frac{1}{12}$

(vi) $\frac{1}{9}$ (vii) $\frac{7}{36}$ (viii) $\frac{5}{36}$ (ix) $\frac{1}{4}$ (x) $\frac{5}{18}$

5. (i) $\frac{9}{20}$ (ii) $\frac{7}{20}$ (iii) $\frac{13}{20}$ (iv) $\frac{11}{20}$ (v) $\frac{11}{20}$