

## Unit – IV (STATISTICS)

### Theory of Probability (Statistics)

#### **PART-B**

#### 3 Marks Questions

- 1) एक थैले में 20 लाल तथा 40 काली गेंदे हैं। (i) एक लाल गेंद और (ii) एक काली गेंद निकालने की क्या सम्भावना है ?  
A bag contains 20 red and 40 black balls. What is the probability of drawing (i) a red ball and (ii) a black ball.
- 2) एक साधारण पासे को फेंकने पर 3 से अधिक की संख्या आने की सम्भावना निकालिए।  
Find the probability of getting a number greater than 3 when a dice is thrown.
- 3) यदि कोई लीप वर्ष दैव प्रतिचयन द्वारा चुना जाता है तो उसमें 53 रविवार होने की क्या सम्भावना है ?  
What is the chance that a leap year, selected at random, will contain 53 Sundays ?
- 4) एक थैली में 8 सफेद, 4 काली, 6 पीली तथा 6 लाल गेंदे हैं। एक बार दैव रूप से निकालने पर एक सफेद अथवा लाल गेंद पाने की क्या सम्भावना है ?  
A bag contains 8 white, 4 black, 6 yellow and 6 red balls. What is the probability of getting a white or red ball at random in a single draw of one ?
- 5) दो पासों को एक साथ फेंकने से प्रायिकता ज्ञात करें यदि इनका जोड़ 8 हो।  
In a single throw of two dice. What is the probability of getting a total of 8.
- 6) What is the probability of getting all the tails in five throws of a coin ?
- 7) A speak truth in 50% cases and b in 80% cases. In what percentage of cases are they likely to contradict each other in stating the same fact ?
- 8) A person is known to hit the target in 3 out of 4 shots, whereas another person is known to hit 2 out of 3 shots. Find the probability that the target being hit at all when they both try.
- 9) A problem in statistics is given to three students A, B and C whose chances of solving it are  $\frac{1}{2}$ ,  $\frac{1}{3}$  and  $\frac{1}{4}$  respectively. What is the probability that the problem will be solved ?
- 10) From a pack of 52 playing cards, two are drawn at random. Find the chance that one is king and other is queen.
- 11) A bag contains 6 white balls and 9 black balls. What is the probability of drawing a black ball ?
- 12) A bag contains 3 red, 5 black and 5 yellow balls. What is the probability of drawing a red ball from the bag ?
- 13) A lot contains 10 items of which 3 are defective. 3 items are chosen at from the lot at random one after another without replacement. Find the probability that all the three are defective.
- 14) In a bag there are 5 red and 3 white balls. Find the probability that the first ball is red, second white, third red and so on, if they are drawn in succession.
- 15) From a pack of 52 cards, two cards are drawn at random. Find out the probability of drawing an ace and a king.

## 1 Mark Questions

- 16) What is the chance of drawing a queen in 9 draw from a pack of 52 cards ?  
(a)  $\frac{4}{52}$  (b)  $\frac{1}{13}$  (c)  $\frac{13}{52}$  (d) None of these
- 17) The probability of a vowel selected at random in any English book is an 'e' will be :  
(a)  $\frac{2}{5}$  (b)  $\frac{4}{5}$  (c)  $\frac{1}{5}$  (d) None of these
- 18) A bag contains 2 blue balls and 6 green balls. The probability of drawing a blue ball will be :  
(a)  $\frac{1}{4}$  (b)  $\frac{1}{3}$  (c)  $\frac{1}{5}$  (d) None of these
- 19) If an events cannot take place, the probability will be  
(a) 0 (b) +1 (c) -1 (d) None of these
- 20) If the events A and B are mutually exclusive, then AB is  
(a) A unit set (b) An infinite set (c) Finite set (d) None of these
- 21) Those events which are included in sample space are call -  
(a) Sure events (b) Impossible events (c) Exhaustive events (d) None of these
- 22) The probability of getting at least two heads in a simultaneous throw of three coins if -  
(a)  $\frac{1}{4}$  (b)  $\frac{1}{2}$  (c)  $\frac{1}{8}$  (d)  $\frac{1}{3}$
- 23) If  $P(A/B) = P(A)$  then A and B are  
(a) Mutually exclusive events (b) Dependent events  
(c) Independent events (d) Compound events
- 24) The probability of getting outcomes of more then 2 spots in a single thrown of six faced.  
(a)  $\frac{1}{3}$  (b)  $\frac{2}{3}$  (c)  $\frac{3}{6}$  (d)  $\frac{1}{6}$
- 25) Probability lies between :  
(a) -1 to 1 (b) 0 to 1 (c) infinite (d) None of these
- 26) The probability of obtaining a total of 6 from two dice A and B in simultaneous throws is -  
(a)  $\frac{1}{36}$  (b)  $\frac{5}{36}$  (c)  $\frac{1}{6}$  (d)  $\frac{5}{6}$
- 27) The set of all possible outcomes of an experiment is called -  
(a) Sample space (b) Sample point (c) Both (d) None of these
- 28) What do you mean by probability ?
- 29) A dice is thrown. The probability of getting a digit less than 4.  
(a)  $\frac{4}{6}$  (b)  $\frac{1}{2}$  (c)  $\frac{1}{3}$  (d) None of these
- 30) If 2 coins are tossed, what is the chance that there should be 1 tail ?  
(a)  $\frac{1}{2}$  (b)  $\frac{1}{4}$  (c) 0 (d) None of these