

## CH – 15 PROBABILITY

**Q1.** A fair die is rolled once, find the probability of obtaining a number that is greater than 3 and less than 6.

**Q2.** A bag contains 3 red and 2 blue marbles. A marble is drawn 'at random'. What is the probability of drawing a blue marble.

**Q3.** A standard deck of 52 cards is shuffled. Ritu draws a single card from the deck at random. What is the probability that the card is a jack.

**Q4.** 17 cards numbered 1,2,3.....,16,17 are put in a box and mixed thoroughly. One person draws a card from the box. Find the probability that the number on the card is.

- (i) odd (ii) a prime  
(iii) divisible by 3 (iv) divisible by 3 and 2 both.

**Q5.** 1000 tickets of a lottery were sold and there are 5 prizes on these tickets. If Saket has purchased one lottery ticket, what is the probability of winning a prize.

**Q6.** A card is drawn from a well-shuffled deck of playing cards. Find the probability of drawing.

- (i) A face card (ii) A red face card.

**Q7.** Cards marked with the numbers 2 to 101 are placed in a box and mixed thoroughly. One card is drawn from this box. Find the probability that the number on the card is :

- (i) An even number  
(ii) A number less than 14  
(iii) A number which is a perfect square  
(iv) A prime number less than 20.

**Q8.** A child has a block in the shape of a cube with one letter written on each face as shown below :

**A** **B** **C** **D** **E**

The cube is thrown once. What is the probability of getting (i) A (ii) D.

**Q9.** A bag contains 5 red balls, 8 white balls, 4 green balls and 7 black balls. If one ball is drawn at random, find the probability that it is

- (i) Black Ball (ii) Red Ball.

**Q10.** A marble is drawn at random from a bag. Find the probability that the marble is green if the bag contains marbles whose colours are :

- (i) 6 blue, 4 green (ii) 5 red, 2 green, 3 blue

**Q11.** Two coins are tossed simultaneously. Find the probability of getting :

- (i) Two heads (ii) exactly 1 head  
(iii) at least one head (iv) at most 1 head  
(v) no heads

**Q12.** Two Black kings and two black jacks are removed from 52 cards. Find the probability of getting :

- (i) a king  
(ii) a black card  
(iii) either red card or a king .  
(iv) neither an ace nor a king

- Q13.** What is the probability that an ordinary year has 53 Sundays.
- Q14.** A class has a total of 40 students, 25 boys and 15 girls. A student of the class is selected at random as the monitor. Find the probability of selecting a boy student as the monitor.
- Q15.** A single letter is selected at random from the word 'PROBABILITY'. What is the chance that is a vowel.
- Q16.** One card is drawn from a pack of 52 cards, each of the 52 cards being equally likely to be draw. Find the probability that the card is drawn is either red or king .
- Q17.** 25 cards numbered 1,2,3.... 25 are put in a box and mixed throughly. One person draws a card from the box. Find the probability that the number on the card is :
- (i) An even                      (ii) A prime  
(iii) Divisible by 3              (iv) Divisible by 3 and 7
- Q18.** Card marked with the number 2 to 151 are placed in a box and mixed throughly. One card is drawn from this box. Find the probability that the number on the card is :
- (i) An odd number  
(ii) A number less than 25  
(iii) A number which is a perfect square.  
(iv) A prime number less than 75.
- Q19.** From a well shuffled pack of card a card is drawn at random. Find the probability of getting a black queen.
- Q20.** Two coins are tossed simultaneously. Find the probability of getting exactly one head.
- Q21.** From a well shuffled pack of card a card is drawn at random. Find the probability of getting a red face card.
- Q22.** A die is thrown twice. What is the probability that the same number will come up either time?
- Q23.** Cards marked with numbers 2, 3, 4, 5, ..... , 11 are placed in a box. One card is drawn at random from the box. Find the probability that number is a prime number.
- Q24.** Two dice are thrown together. Find the probability of getting the same number on both the dice.
- Q25.** Find the probability of getting an even number when a die is thrown once.
- Q26.** A box contains 90 discs. A disc is drawn at random. Find the probability that it bears a prime number less than 23.
- Q27.** One ticket is selected at random from tickets numbered 1 to 40. Find the probability the selected ticket has a number which is a multiple of 7.
- Q28.** If two dice are rolled together then find the probability of getting even number on both the dice.
- Q29.** A number is selected at random from 1 to 30. Find the probability of getting a prime number.
- Q30.** In a family of 3 children, find the probability of having at least one boy.
- Q31.** A letter of English alphabet is chosen at random. Determine the probability that the chosen letter is consonant.
- Q32.** Two different dice are tossed together. Find the probability that the product of the two numbers on the top of the dice is 6.

## Practice Sheet 2

- Q33.** In a simultaneous throw a pair of dice. Find the probability of getting a doublet.
- Q34.** In a simultaneous throw a pair of dice. Find the probability of getting a doublet of prime numbers.
- Q35.** In a simultaneous throw a pair of dice. Find the probability of getting a sum greater than 9.
- Q36.** In a simultaneous throw a pair of dice. Find the probability of getting an even number on first dice.
- Q37.** In a simultaneous throw a pair of dice. Find the probability of getting a sum more than 7.
- Q38.** In a simultaneous throw a pair of dice. Find the probability of getting a number other than 5 on any dice.
- Q39.** A card is drawn at random from a pack of 52 cards find the probability that the card drawn is Black and a king.
- Q40.** A card is drawn at random from a pack of 52 cards find the probability that the card drawn is A jack, Queen or king .
- Q41.** A card is drawn at random from a pack of 52 cards find the probability that the card drawn is Other than an ace.
- Q42.** A card is drawn at random from a pack of 52 cards find the probability that the card drawn is The seven of Clubs.
- Q43.** A card is drawn at random from a pack of 52 cards find the probability that the card drawn is A queen.
- Q44.** A card is drawn at random from a pack of 52 cards find the probability that the card drawn is A red card.
- Q45.** The probability of selecting a green marble at random from a Jar contains only green ,white and yellow marbles is  $\frac{1}{4}$  .The probability of selecting a white marble at random from the same jar is  $\frac{1}{3}$  if this jar is contains 10 yellow marbles .What is the total number of marbles in the jar. ....
- Q46.** Two customers are visiting a particular shop in the same week (Monday to Saturday) Each is equally likely to visit the shop on any one day as on another what is the probability that Both visit the shop on. (i) The same day (ii) different day (iii) consecutive days
- Q47.** A bank ATM has 1000 NOTES of Rs. 100 and 1500 Notes of Rs 50. Find the Probability it a person with draws Rs. 100 and he does not get Rs 100 notes.
- Q48.** Only face cards, excluding, black jacks, are well shuffled a card is drawn at random. Write the probability of getting a red king .
- Q49.** A group of 3 students the probability of 2 students not having same age is 0.887. What is the probability that 2 students have same age
- Q50.**Two friends are born in the year 2000.What is the probability that they have the same birthday .
- Q51.** A bag contains 5 red balls and some blue balls. It the probability of drawing a blue ball is double that of red ball, find the number of blue balls in the bag.
- Q52.** Three unbiased coins are tossed together. Find the probability of getting at least two heads.