

(Unit-15) PROBABILITY

Ans 1. A bag contains 12 balls out of which x balls are white. If one ball is taken out from the bag, find the probability of getting a white ball. If 6 more white balls are added to the bag and the probability now for getting a white ball is double the previous one, find the value of x . ($x=3$)

Ans 2. The runs scored by a batsman in 80 one-day matches are as follows:

Runs	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
No. of matches	1	1	8	13	20	22	12	3

What is the probability that in the next match, the batsman will score

- i) At least 70 runs ($\frac{37}{80}$)
- ii) At most 59 runs ($\frac{23}{80}$)

Ans 3. The probability of guessing the correct answer to a certain question is x . If the probability of not guessing the correct answer is $\frac{4}{5}$, then find the value of x . ($x=\frac{2}{5}$)

Ans 4. The probability of winning a race of an athlete is $\frac{1}{5}$ less than the thrice the probability of losing the race. Find the probability of winning the race. (0.7)

Ans 5. The following table shows the marks obtained by a student in five different unit tests out of 50:

unit test	I	II	III	IV	V
Marks (out of 50)	34	35	36	34	37

Find the probability that the students get 70% marks or more in the next unit test. Also find the probability that the student gets less than 70% marks. ($\frac{3}{5}, \frac{2}{5}$)

Ques 6. In a kitchen, there are 54 utensils consisting of bowls, plates and glasses. The ratio of bowls, plates and glasses is 3:1:2. A utensil is picked at random. Find the probability that:

i) It is a plate. $(\frac{1}{6})$

ii) It is not a bowl. $(\frac{1}{2})$

Ques 7. On the occasion of Gandhi Jayanti, a social welfare organisation distributed clothes and sweets to the orphans. If 80 orphans received clothes out of 100 then

i) Find probability of getting (a) clothes (b) Not getting clothes by a orphan $(\frac{4}{5}, \frac{1}{5})$

ii) what value is depicted by this activity?

Ques 8. what is the range in which probability of an event lie? (0-1)

Ques 9. In an experiment, what is the sum of probabilities of different events for all possible outcomes? (1)

Ques 10. Can the experiment probability of an event be a negative number? If not, why? (No)

Ques 11. In a single throw of two dice, what is the probability of getting a sum of 9? $(\frac{1}{9})$

Ques 12. A card is drawn from a well shuffled pack of 52 cards. what is the probability that the card is not diamond? $(\frac{3}{4})$

Ques 13. A card is drawn at random from a well shuffled pack of 52 cards. Find the probability in % of drawing (i) A club (25%) (ii) A king or an ace (15.4%) (iii) Not a spade (75%)

Ques 14. The king, queen and jack of clubs are removed from a deck of 52 cards and then well shuffled. One card is selected from the remaining card. Find the probability of getting:

(i) A heart $(\frac{13}{49})$ (ii) A king $(\frac{3}{49})$ (iii) The 10 of hearts $(\frac{1}{49})$

Ques 15: A travel company has 100 drivers for driving buses to various tourist destinations. Given below is a table showing the resting time of the drivers after covering a certain distance (in km).

Distance (in km)	After 75 km	After 115 km	After 150 km	After 200 km
No. of drivers	13	47	30	10

What is the probability that driver chosen at random:

- takes a halt after covering 80 km (0.13)
- " " " 115 km (0.47)
- " " " 155 km (0.30)
- " " " 200 km (0.10)

Ques 16: Cards marked with 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:

- A no. less than 14
- A no. which is a perfect square
- A prime no. less than 20.

$$\left(\frac{3}{25}, \frac{9}{100}, \frac{2}{25} \right)$$