

T3- Probability And Graphs

Model Question Paper X

9th Standard

Maths

Reg.No. :

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I. Answer all the questions

Time : 01:00:00 Hrs

Total Marks : 40

5 x 1 = 5

Part-A

- 1) Probability of sure event is
(a) 1 (b) 0 (c) $\frac{1}{2}$ (d) 2
- 2) Which one can represent a probability of an event
(a) $\frac{7}{4}$ (b) -1 (c) $-\frac{2}{3}$ (d) $\frac{2}{3}$
- 3) Probability of impossible event is
(a) 1 (b) 0 (c) $\frac{1}{2}$ (d) -1
- 4) Probability of any event x lies
(a) $0 < x < 1$ (b) $0 \leq x < 1$ (c) $0 \leq x \leq 1$ (d) $1 < x < 2$
- 5) $P(E') =$
(a) $1 - P(E)$ (b) $P(E) - 1$ (c) 1 (d) 0

Part-B

10 x 2 = 20

- 6) manufacturer tested 1000 cell phones at random and found that 25 of them were defective. If a cell phone is selected at random, what is the probability that the selected cellphone is a defective one.
- 7) In T-20 cricket match, Raju hit a "Six" 10 times out of 50 balls he played. If a ball was selected at random find the probability that he would not have hit a "Six".
- 8) The selection committee of a cricket team has to select a team of players. If the selection is made by using the past records scoring more than 40 runs in a match, then find the probability of selecting these two players whose performance are given below? The performance of their last 30 matches are

Name of the player	More than 40 runs
kumar	20 times
kiruba	12 times

- 9) On a particular day a policeman observed vehicles for speed check. The frequency table shows the speed of 160 vehicles that pass a radar speed check on dual carriage way

Speed(km/h)	20-29	30-39	40-49	50-59	60-69	70 & above
No.of Vehicles	14	23	28	35	52	8

Find the probability that the speed of a vehicle selected at random is

- (i) faster than 69 km/h. (ii) between 20 - 39 km/h.
 - (iii) less than 60 km/h. (iv) between 40 - 69 km/h.
- 10) A researcher would like to determine whether there is a relationship between a student's interest in statistics and his or her ability in mathematics. A random sample of 200 students is selected and they are asked whether their ability in mathematics and interest in statistics is low, average or high. The results were as follows:

		Ability in mathematics		
		Low	Average	High
Interest in statistics	Low	60	15	15
	Average	15	45	10
	High	5	10	25

If a student is selected at random, what is the probability that he / she

- (i) has a high ability in mathematics
 - (ii) has an average interest in statistics
 - (iii) has a high interest in statistics
 - (iv) has high ability in mathematics and high interest in statistics and
 - (v) has average ability in mathematics and low interest in statistics
- 11) Draw the graph of the line joining the points (3, 5) and (-5, 1).
 - 12) Draw the graph of $x = 5$.
 - 13) Draw the graph of $y = 4x - 1$.
 - 14) Solve graphically the pair of equations $x + 2y = 4$; $2x + 4y = 8$.
 - 15) Solve graphically the equations $2x - y = 1$; $x + 2y = 8$

Part-C

5 x 3 = 15

- 16) The record of a weather station shows that out of the past 300 consecutive days, its weather was forecasted correctly 195 times. What is the probability that on a given day selected at random, (i) it was correct (ii) it was not correct

- 17) On a busy road in a city the number of persons sitting in the cars passing by were observed during a particular interval of time. Data of 60 such cars is given in the following table

No. of person in the car	1	2	3	4	5
No. of Cars	22	16	12	4	

Suppose another car passes by after this time interval. Find the probability that it has

- (i) only 2 persons sitting in it (ii) less than 3 persons in it
(iii) more than 2 persons in it (iv) at least 4 persons in it

- 18) Define:

trial

- 19) Draw the graph of the following

- (i) $y = 4x$
(ii) $3x + y = 0$
(iii) $x = -2y$
(iv) $y - 3x = 0$
(v) $9y - 3x = 0$

- 20) Solve Graphically the following pairs of equations.

$2x - 4 = 0$; $4x + y + 4 = 0$

