

Model Question Paper**Probability - Part I**

10th Standard

MathsReg.No. :

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I. Answer all the questions.

II. Use blue pen only.

III. Question number 15 is compulsory.

Time : 01:30:00 Hrs

Total Marks : 40

5 x 1 = 5

Part-A

- 1) If $\emptyset$ is an impossible event, then $P(\emptyset) =$
(a) 1 (b) $\frac{1}{4}$ (c) 0 (d) $\frac{1}{2}$
- 2) If S is the sample space of a random experiment, then $P(S) =$
(a) 0 (b) $\frac{1}{8}$ (c) $\frac{1}{2}$ (d) 1
- 3) If p is the probability of an event A, then p satisfies
(a) $0 < p < 1$ (b) $0 \leq p \leq 1$ (c) $0 \leq p < 1$ (d) $0 < p \leq 1$
- 4) Let A and B be any two events and S be the corresponding sample space.
Then $P(\bar{A} \cap B) =$
(a) $P(B) - P(A \cap B)$ (b) $P(A \cap B) - P(B)$ (c) $P(S)$ (d) $P[(A \cup B)']$
- 5) The probability that a student will score centum in mathematics is $\frac{4}{5}$. The probability that he will not score centum is
(a) $\frac{1}{5}$ (b) $\frac{2}{5}$ (c) $\frac{3}{5}$ (d) $\frac{4}{5}$

Part-B

5 x 2 = 10

- 6) An integer is chosen from the first twenty natural numbers. What is the probability that it is a prime number?
- 7) There are 7 defective items in a sample of 35 items. Find the probability that an item chosen at random is non-defective.
- 8) There are 20 boys and 15 girls in a class of 35 students. A student is chosen at random. Find the probability that the chosen student is a (i) boy (ii) girl.
- 9) The probability that it will rain on a particular day is 0.76. What is the probability that it will not rain on that day?
- 10) A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball from the bag is thrice that of drawing a red ball, then find the number of blue balls in the bag.

Part-C

5 x 5 = 25

- 11) A fair die is rolled. Find the probability of getting
(i) the number 4 (ii) an even number

(iii) a prime factor of 6 (iv) a number greater than 4.



- 12) In tossing a fair coin twice, find the probability of getting
(i) two heads (ii) at least one head (iii) exactly one tail
- 13) Two unbiased dice are rolled once. Find the probability of getting
(i) a sum 8 (ii) a doublet (iii) a sum greater than 8.
- 14) From a well shuffled pack of 52 playing cards, one card is drawn at random. Find the probability of getting
(i) a king (ii) a black king (iii) a spade card (iv) a diamond 10.
- 15) a) Three coins are tossed simultaneously. Find the probability of getting
(i) at least one head (ii) exactly two tails (iii) at least two heads.

(OR)

- b) Two dice are rolled and the product of the outcomes (numbers) are found. What is the probability that the product so found is a prime number?
