

Topics : Permutation & Combination, Probability

Type of Questions

M.M., Min.

Single choice Objective (no negative marking) Q.1,2,3,4,5

(3 marks, 3 min.)

[15, 15]

Fill in the Blanks (no negative marking) Q.6

(4 marks, 4 min.)

[4, 4]

Subjective Questions (no negative marking) Q.7

(4 marks, 5 min.)

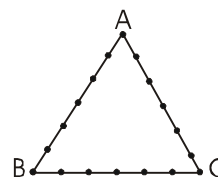
[4, 5]

1. 6 chocolates out of 8 different brands available in the market are chosen, what is the probability that all the chocolates are of different brands.

(A) $\frac{{}^8C_6}{{}^{13}C_6}$ (B) $\frac{{}^8C_6}{{}^{13}C_8}$ (C) $\frac{{}^8C_6}{8^6}$ (D) None of these

2. 18 points are indicated on the perimeter of a triangle ABC (see figure). If three points are chosen probability it will form a triangle.

(A) $\frac{331}{816}$ (B) $\frac{1}{2}$
(C) $\frac{355}{408}$ (D) $\frac{711}{816}$

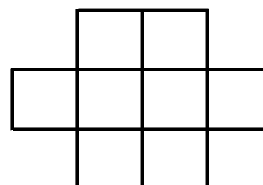


3. A five digits number of the form x y z y x is chosen, probability that $x < y$ is :

(A) $\frac{35}{90}$ (B) $\frac{6}{15}$ (C) $\frac{19}{45}$ (D) $\frac{13}{30}$

4. Find the probability in which 5 X's can be placed in the squares of the figure so that no row remains empty is

(A) $\frac{11}{28}$ (B) $\frac{11}{14}$
(C) $\frac{9}{14}$ (D) $\frac{1}{2}$



5. The probability of choosing randomly a number which is from 1 to 90 divisible by 6 or 8 is

(A) $\frac{1}{6}$ (B) $\frac{11}{90}$ (C) $\frac{1}{30}$ (D) $\frac{23}{90}$

6. (i) The number of arrangements that can be made taking 4 letters, at a time, out of the letters of the word "PASSPORT" is _____
(ii) Probability that both S appear in such 4 letter words is _____
(iii) Probability that all letter are distinct in such 4 letter words is _____

7. A 10 digit numbers is choose with odd digits. Find the probability that no two consecutive digits are same.

Answers Key

1. (A) 2. (D) 3. (B) 4. (B)

5. (D) 6. (i) 606 (ii) $\frac{21}{101}$ (iii) $\frac{{}^6C_4 \cdot 4!}{606}$

7. $\left(\frac{4}{5}\right)^9$