# DELHI PUBLIC SCHOOL, JAMMU
## Assignment

**Class: XII**
**Sub: Applied Maths**

**Month:August**

**TOPIC :Probability.**

**Based  on your understanding of e-lectures-cum-PPTs, video links and other-e-resources  share**

**withyou,answer the following question**.

Q1.    The probability distribution of a discrete random variable X is given below:

| X | 30 | 10 | -10 |
|-----|-----|-----|-----|
| P(X) | $\frac{1}{5}$ | $\frac{3}{10}$ | $\frac{1}{2}$ |

Then, E(X) is equal to

a. 6                     b. 4                     c. 3                     d. -5

Q2.    For the probability distribution:

| X | -4 | -3 | -2 | -1 | 0 |
|-----|-----|-----|-----|-----|-----|
| P(X) | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 |

E(X) is equal to

a. 0                     b. -1                     c. -2                     d. -1.8

Q3.    For the following probability distribution:

| X | 1 | 2 | 3 | 4 |
|-----|-----|-----|-----|-----|
| P(X) | $\frac{1}{10}$ | $\frac{1}{5}$ | $\frac{3}{10}$ | $\frac{2}{5}$ |

$E(X^2)$ is equal to

a. 3                     b. 5                     c. 7                     d. 10

Q4.    For a random variable X, $E(X) = 3$ and $E(X^2) = 11$. Then variance of X is

a. 8                     b. 5                     c. 2                     d. 1

Q5.    A random variable 'X' has the following probability distribution:

| X | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| P(X) | k | К | 2k | 3k | $k^2$ | $2k^2$ | $7k^2$ | 2k |

The value of k is

a. -1          b. $-\frac{1}{10}$          c. 1          d. $\frac{1}{10}$

Q6. A die is rolled thrice. If the event of getting an even number is a success, then the probability of getting atleast two successes is

a. $\frac{7}{8}$          b. $\frac{1}{4}$          c. $\frac{2}{3}$          d. $\frac{1}{2}$

Q7. A dice is thrown twice, the probability of occurring of 5 atleast once is

a. $\frac{11}{36}$          b. $\frac{7}{12}$          c. $\frac{35}{36}$          d. none of these

Q8. A coin is tossed 10 times. The probability of getting exactly six heads is

a. $^{10}C_6$          b. $\frac{511}{512}$          c. $\frac{105}{512}$          d. $\frac{21}{512}$

Q9. A coin is tossed 4 times. The probability of getting atleast one head is

a. $\frac{1}{16}$          b. $\frac{1}{8}$          c. $\frac{7}{8}$          d. $\frac{15}{16}$

Q10. Two dice are thrown n times in succession. The probability of obtaining a double six atleast once is

a. $\left(\frac{1}{36}\right)^n$          b. $1-\left(\frac{35}{36}\right)^n$          c. $\left(\frac{1}{12}\right)^n$          d. none of these

**Due date of submission of assignment 20 August,2021**

**send your assignment on e-mail ID of your respective subject teacher**

**XII  D,E,H:   Mr. Rajesh Shastri  rajeshshastrimiit@gmail.com**

**XI B,F:  Mr. Rajesh Pandoh   bakshiveena1@gmail.com**

 **XI A:  Mr. Sandeep Sharma   sandeepsharma5292@gmail.com**

**XI  D:   Mr. Rajesh Shastri     rajeshshastrimiit@gmail.com**

**Students must mention their name,class/section and date in their assignment.**

**your assignment will be marked for internal/term assessment. Therefore you are required to submit it on time.**

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