Statistics 1

1) During Covid-19, the number of orders for food received on an online food delivery application over 7 days for a city is shown in Table Q2.1. The revenue generated from these orders is also tabulated. Find the correlation coefficient for the data.(Correct upto 2 decimal points)

Number of orders (in thousands)	Revenue (In lakh Rupees)
12	21
8	13
8	15
7	14
9	16
8	14
11	12

Table Q2.1

2) In the Statistics paper of a qualifier exam, there are five multiple choice questions each of which has four possible answer options. Find the number of ways a student will not get all the answers correct

1 point

3) Nitya has access to three free books on a website which she can download online. There are 10 books available to download from that website. Among those 10 books, one book is on Machine Learning and one book is of Python. She does not want to download the Machine learning book unless the Python book is also downloaded. In how many ways can she download the three books from the website?

1 point

4) Find the number of ways in which the twelve letters in the word "PERMUTATIONS" can be arranged (More *1 point* than one option could be correct).

☐ $\dfrac{12!}{2!}$

☐ $6 \times 11 \times 10!$

☐ $12!$

☐ None of the above

5) In a tennis competition involving both boys and girls, every player has to play exactly one match with every other player. It was found that 10 games are such that both the players are girls and in 105 games, both players are boys. What is the number of games in which one player is a girl and the opponent is a boy?

1 point

6) During Covid-19, the number of orders for food received on an online food delivery application over 7 days for a city is shown in Table Q2.1. The revenue generated from these orders is also tabulated. Find the correlation coefficient for the data. Enter the answer up to 2 decimals accuracy.

Number of orders (in thousands)	Revenue (In lakh Rupees)
12	14
8	11
8	10.5
9	8.5
10	12
12	14
11	14

Table Q2.1

7) In the Statistics paper of a Qualifier exam, there are six multiple choice questions each of which has four possible answer options. Find the number of ways a student will not get all the answers correct.

1 point

8) Nitya has access to three four books on a website which she can download online. There are 10 books available to download from that website. Among those 10 books, one book is on Machine Learning and one book is of Python. She does not want to download the Machine learning book unless the Python book is also downloaded. In how many ways can she download the three books from the website?

1 point

9) Find the number of ways in which the twelve letters in the word "COMBINATIONS" can be arranged (More *1 point* than one option could be correct).

☐

$\dfrac{12!}{2!^3}$

☐

$\dfrac{3 \times 11!}{2}$

☐ 12!

☐ None of the Above

10) In a tennis competition involving both boys and girls, every player has to play exactly one match with every other player. It was found that 6 games are such that both the players are girls and in 105 games both players are boys. What is the number of games in which one player is a girl and the opponent is a boy?

1 point