Delhi School of Business
PGDM (G) & PGDM (FINTECH) Program
MID-TERM EXAMINATION, September 2023
TERM – I (Batch: 2023-25)

Course Name	Business Mathematics (QT-1)	Course Code	QT1
Duration	1.5 Hours	Max. Marks	40

Instructions:

1. You can use Scientific Calculators. Borrowing of Calculators is not allowed.

Q.1   Find the Mean and Standard deviation of the following grouped data.

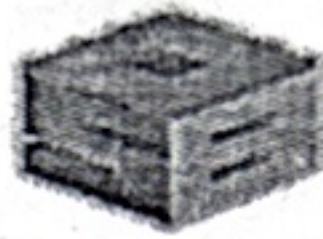| Class Intervals	Frequency
10-20	1002
20-30	1109
30-40	1287
40-50	1299
50-60	1300
60-70	1220
70-80	1010
80-90	780
90-100	540

(10 Marks) CO1

Q.2   Mr. Singh owns sports factories in Jullundhur and Meerut. He was studying the absenteeism of the workers in these 2 factories. He took a sample of number of absentees of both factories for 10 days. The data for the number of absentees for both factories is given below. Find the Covariance and Correlation between the absenteesim in both factories.

18	19	25	17	15	18	19	25	24	27
24	27	17	28	12	16	26	16	13	17

(10 Marks) CO1

7740
11208

Q.3a) For the data given below, find the 2nd Quartile, 7th Decile and 90th Percentile.

CI	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	18	15	7	4	4	2

(6 Marks) CO1

3b) Illustrate through diagrams the boxplot of positively and negatively skewed distributions.

(4 Marks) CO1

Q.4   The Easy Credits Company reports the following table representing a breakdown of customers according to the amount they owe and whether a cash advance has been made. An auditor randomly selects one of the accounts.

Amounts owed by Customers	Cash Advance	
	Yes	No
0- 199	245 |2090	2890 / 7910
200- 399	380 /2090	1700 /7910
400-599	500 /2090	1425
600-799	415	940
800-999	260	480
1000 or more	290	475
Total Customers	2090	7910

a) What is the probability that a customer received a cash advance?

b) What is the probability that a customer owed less than $200 and received a   cash advance?

c) What is the probability that a customer owed less than $200 or received a cash advance?

d) Given that a customer received a   cash advance, what is the probability that the customer owed $1000 or more?

e) Are the events "receiving a cash advance" and "owing $1000 or more" independent? Explain using probabilities.   (10 Marks) CO3