Roll No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, NIET BUSINESS SCHOOL GREATER NOIDA **PGDM (Global)**

TRIMESTER-I THEORY EXAMINATION (2024-2025)

Subject- Business Statistics

Time: 2Hrs.30 min

General Instructions:

IMP: Verify that you have received question paper with correct course, code, branch etc.

- 1. This Question paper comprises of three Sections -A, B, & C. It consists of Short type questions & Subjective type questions.
- 2. Maximum marks for each question are indicated on right hand side of each question.
- 3. Illustrate your answers with neat sketches wherever necessary.
- 4. Assume suitable data if necessary.

Attempt all parts.-

1

- 5. Preferably, write the answers in sequential order.
- 6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.
 - **SECTION A** 15

1. 110	parts.	
1-a.	Define skewness.(CO1,K ₁)	1
1-b.	Define regression.(CO2, K ₃)	1
1-c.	Write formula of Probability.(CO3,K2)	1
1-d.	Give definition of binomial distribution. (CO4,K ₂)	1
1-e.	Give concept of Time Series. (CO5,K ₃)	1
2. At	tempt <u>all parts:-</u>	
2.a.	Define arithmetic mean with formula. (CO1, K_1)	2
2.b.	Discuss correlation.(CO2,K3)	2
2.c.	Write addition theorem of probability. $(CO3, K_2)$	2
2.d.	Give two properties of normal distribution. (CO4,K ₂)	2
2.e	Give one property of index number.(CO5,K ₃)	2
	SECTION – B	15
3. Ar	nswer any <u>three</u> of the following-	
3-a.	Find S.D. of following data:	5

		U				
Х	4	7	10	15	25	50
f	80	75	40	32	15	8
(CO1 V)						

 (COI, K_1)

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Max. Marks:60

- 3-b. Write the types and properties of correlation. (CO2,K₃)
- 3-c. Define random variables and discuss its types.(CO3,K₂)
- 3-d. Define expectation. Find the expected value of the number of 5 the points that will be obtained in a single throw of an ordinary dice. $(CO4, K_2)$
- 3-e. Define secular trend. Discuss any one method of isolating trend 5 value of Time Series.(CO5,K₃)

Case Let & Application Based

- 4. Answer any <u>one</u> of the following-
- 4-a. Find mean deviation from following data:

Х	6	10	12	20	24	36	40	48	
F	7	11	14	36	16	9	5	1	
(CO1 K1)									

- 4-b. Define Measure of dispersion. Give types of Measure of 6 dispersion .(CO1,K1)
- 5. Answer any <u>one</u> of the following-
- 5-a. Calculate the correlation Coefficient between price and 6 demand.

Price	22	30	25	20	15	8	
Demand	10	12	15	20	23	28	
(CO2,K3)							

5-b.

Code	А	В	С	D	E	F	G	Н
R ₁	5	3	1	6	2	4	8	7
R ₂	3	4	1	8	2	6	7	5

Find the coefficient of rank correlation. (CO2,K3)

- 6. Answer any <u>one</u> of the following-
- 6-a. Find the probability that a leap year selected at random will 6 contain either 53 Thursday or 53 Friday. (CO3,K2)

6

6

5

5

6

- 6-b. State and prove Bayes theorem. (CO3,K2)
- 7. Answer any one of the following-
- 7-a. It is believe that 50% students use internet for academic purpose6 .In a sample of 4 students, Calculate probability

i) None of student use the internet.

- ii) Only one student uses internet (CO4,K2)
- 7-b. Out of 2000 families with 4 children each ,how many would 6 you except to have

i) at least one boy

- ii) 2 boys.(CO4,K2)
- 8. Answer any <u>one</u> of the following-
- 8-a. Given below is the time series data on production of a certain 6 firm.

Year	2004	2005	2006	2007	2008	2009	2010
Production	42	49	62	75	92	122	158

Fit a straight line trend to above data.(CO5,K3)

8-b. State briefly the various problems in the construction of price 6 index numbers. (CO5,K3)