

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306  
**POST GRADUATE DIPLOMA IN MANAGEMENT (2023-25)**  
**END TERM EXAMINATION (TERM -III)**

Subject Name: **Data Modelling**

Time: **01.30 hrs.**

Sub. Code: **PGIT31**

Max Marks: **40**

**Note: 1. All questions are compulsory.**

**2. All questions are to be solved using MS-Excel on an individual Computer/LAPTOP.**

**b. EACH AND EVERY QUESTION NEEDS TO BE SOLVED ON THE DEFINED INDIVIDUAL WORKSHEET. Each sheet is renamed with the Question numbers.**

**5. Student are supposed to save the file using Room No., Admission No., full name and section: example (206\_PGDM23123\_Poonam\_B).**

**CO1-** Understanding and apply Data Modelling techniques for decision-making in business.

**CO2-** Apply knowledge of Predictive and time series data models in business.

**CO3-** Analyze the data models for validity and feasibility in business.

**CO4-** Evaluate data models to solve business problems.

**Q1. (A).** Determine the three stocks with the most risk or variability.

**(B)** Define skewness. Which method of central tendency is effective if the data is skewed. Determine the three stocks with the highest skewness.

**Q2.** In the sheet Q2 are listed the size (in square feet) and appraised value for several homes in the River Oaks area of Houston. Estimate the relationship between house size and price. What percentage of variation in home price is explained by house size? You would estimate that an extra square foot of home size increases home price by how much?

**Q3.** Woodco produces tables and chairs. The unit profit, wood used (in square feet), and the number of skilled carpentry hours used to produce a pair of items are given in the table below:

	<b>Desk</b>	<b>Chair</b>
<b>Unit Profit</b>	\$250	\$150
<b>Wood Used</b>	22	18
<b>Carpentry Hrs. used</b>	14	8

1200 square feet of woods and 600 carpentry hrs. are available. An integer number of desks and chairs must be made, and demand is unlimited. How can we maximize the weekly profit?

**Q4.** The data contains the quarterly revenues of Walmart during the years 2005–2009. Use the ratio-to-moving-average method to forecast the revenues for Quarters 3 and 4 in 2009 and Quarters 1 and 2 of 2010.

**Q. 5: Case Study:** The data is for several underdeveloped countries/ regions is given: Infant mortality rate, Adult literacy rate, Percentage of students finishing primary school, Per capita GNP. Use this data to develop an equation that can be used to predict infant mortality. Interpret R-square, standard error, significance F and p-value.

**Questions:**

**Q. 5: (A).** Use this data to develop an equation that can be used to predict infant mortality. Interpret R-square, standard error, significance F and p-value.

**Q. 5: (B).** Is the model significant? Is there any variable which is not significant? Are there any outliers in this set of data? Interpret the coefficients in your equation.

**Kindly fill the total marks allocated to each CO's in the table below:**

<b>Q. No.</b>	<b>COs</b>	<b>Marks Allocated</b>	<b>Bloom' Level</b>
1	CO1	8 Marks	L3
2	CO2	8 Marks	L3
3	CO3	8 Marks	L4
4	CO4	8 Marks	L5
5	CO4	8 Marks	L5