

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2025-27)

MID TERM EXAMINATION (TERM -III)

 Subject Name: **Machine Learning for Business Management**

 Time: **01.00 hrs**

 Sub. Code: **PGIT33**

 Max Marks: **20**
Note:

- Attempt both questions.
- Second question has internal choice (OR).
- Use Python (as instructed).
- Show outputs, interpretations, and relevant code snippets.

Kindly write the all the course outcomes as per your TLEP in the box given below:

CO1-Describe the business needs ML in order to create competitive advantages and add real business value in solving business problems. (L3)

CO2-Demonstrate the ML techniques and their application in business context. (L3)

CO3-Apply and compare interesting and useful patterns from the explosive Volume of data by application of supervised and unsupervised techniques. (L3, L4, L5)

CO4-Develop an appreciation for what is involved in learning from data and explain Integration of theory & application in various functional areas through interdisciplinary approach. (L4)

Sample data: House pricing data

Dataset description: This dataset contains residential house details including size in square feet number of bedrooms property age and distance from the city center. It is designed to analyze relationships among variables and apply regression techniques for predictive modeling.

Size (sq ft)	Bedrooms	Age (years)	Distance from City (km)	Price (₹ Lakhs)
800	2	10	12	40
1200	3	5	8	65
1500	3	2	5	80
1800	4	1	3	95
2000	4	7	6	90
2200	5	3	4	110
2500	5	2	2	130
2700	5	1	1	150
3000	6	4	3	160
3200	6	2	2	180

Question 1: Perform support vector regression, decision tree regression and random forest regression model and tell which regression model performs best for the given sample dataset and why?

Question 2(a): Apply Polynomial Regression (degree 2 or 3) on the given dataset and interpret the results (Results should contain graphs plotting also).

OR

Question 2(b): Apply Support Vector Regression (RBF kernel) on the given dataset and evaluate its performance and compare it with Linear Regression

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

COs	Blooms Taxonomy Levels	Marks Allocated
CO1	L3	10 Marks
CO2	L4	10 Marks

Blooms Taxonomy Levels given below for your ready reference:

L1= Remembering

L2= Understanding

L3= Apply

L4= Analyze

L5= Evaluate

L6= Create