

**MODULE 1- INTRODUCTION TO MACHINE LEARNING LANGUAGE**

**Part- A (2 marks)**

1. Enumerate the different types of learning
2. List out four applications of Machine Learning?
3. Differentiate supervised and unsupervised learning
4. Classify the types of supervised learning
5. Elucidate regression analysis in machine learning
6. List out the important assumptions required to build a linear regression model
7. Mention any four applications of linear regression
8. Recall the term underfitting and overfitting in regression analysis

**Part-B (6 marks)**

1. Enumerate the types of learning and distinguish each with example
2. Differentiate any six points between supervised and unsupervised learning
3. Elucidate about single linear regression model with an example
4. Assuming “y” is the independent variable, model a linear regression for the given data in Table

x	1	2	3	4	5
y	1.00	2.00	1.30	3.75	2.25

5. Fit a multiple linear regression model to the following data

x <sub>1</sub>	1	1	2	0
x <sub>2</sub>	1	2	2	1
y	3.25	6.5	3.5	5.0

6. Enlighten the concepts of (i) Cost function (ii) Gradient Descent Algorithm (iii) Best Fit Line (iv) Residuals

**Part-C (10 marks)**

1. Interpret the simple linear regression in machine learning with example
2. Interpret the ways to find the best fit line in linear regression