

Title of Course: Machine learning with python	
Class: M.Sc. I	Level: 7
Name of Co-ordinator: Miss. More G. N.	

Department of Mathematics

1. Title: Machine learning with python
2. Year of implementation: 2020

Structure of Skill Development Course

Level	Theory Hours	Practical Hours	Total Hours	Credits	No. of students in batch
7	20	30	50	03	30

Syllabus

Learning Objectives:

1. Use Python to read and write files.
2. Discover how to work with lists and sequence data.
3. To introduce students to the basic concepts and techniques of machine learning.
4. To develop skills of using recent machine learning.
5. To gain experience of doing independent study and research.

Theory Syllabus (20 Hrs)

Unit I: Python Programming Language.

Introduction to ML , python and IDE(Installation),python programming and Inbuilt data types, introduction to python loop and functions , NumPy package ,pandas package , matplotlib -data visualization.

Unit II: Introduction to Machine Learning

Descriptive statistics, hypothesis testing and process, inferential statistics, concepts like- regression, correlation, logistic regression, introduction to Machine learning algorithms. Creating machine learning Models.(Regression and Classification.)

Practical Syllabus (30 Hrs)

List of Experiments: -----24 hr

- 1- Data types
- 2- Loop and functions.
- 3- Python programme to display calendar
- 4- Making a Simple calculator
- 5- Understanding Data through Visualization
- 6 – Understanding Data stastically.
- 7- Creating regression Model
- 8- Creating classification Model

Project/ Field Visits/ Industrial Visit-----06 hr

Learning Outcomes:

- 1 Gain knowledge about basic concepts of Machine Learning.
- 2 Identify machine learning techniques suitable for a given problem.
- 3 Solve the problems using various machine learning techniques.
- 4 Apply dimensionality reduction techniques.
- 5 Design application using machine learning techniques.

Recommended Books:

1. Tim Hall and J-P Stacey, Python 3 for Absolute beginners (Apress, 2009), (1-124).
2. Dr. Charles R. Severance, Python for Everybody (Create Space Independent Publishing Platform, 2016), (1-128).

3. Alex Smola and S.V.N. Vishwanathan, Introduction to Machine Learning (Cambridge University Press, 2008), (1-60).

BOS Sub Committee:

1) Miss. G. N. More

External Expert

Mr. V. Godase