# Details of the Course

**Name of The Course: Industrial training and internship in Machine Learning using Python Programming**

**Duration (in Hrs.):** 60
**Fee (in Rs.): Rs 2974/-**
**Eligibility:** Diploma/B.Sc./B.Tech/ In Electronics, Electrical, Instrumentation Engineering, Computer Science, IT or its equivalent/BCA/MCA. (Completed or Pursuing).

**Course Content:**

| Sl.No | Topic | Subtopic | Duration(in Hrs) |
|---|---|---|---|
| 1 | Introduction to Python Programming | Python Programming fundamentals, Installing Python IDE, Data Types, Operators and expressions, Variable assignments, Mutable and Immutable data, String, List, Tuple, Dictionary, Properties and Methods , Python Conditional Statements, If, elif, else, for, while | 8 |
| 2 | Python Methods and Functions | Functions in Python, Variable argument function, args, kwargs, recursive function, inbuilt functions , Lambda Expression , Map, Filter, Tuple Unpacking | 3 |
| 3 | Python as Object oriented programming | Oops concepts, Python as oops, Attributes and class, Methods, Inheritance | 3 |
| 4 | Python Modules and Packages | Modules and Packages in Python, Collection, | 3 |
| | | OS module, Math, Random, Regular Expressions | |

| 5 | Python Packages and tools for Data Science | Python Packages for Data Science (Numpy, Pandas and Matplotlib), Properties, Methods, Functions, Scikitlearn, Keras, Tensorflow | 9 |
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| 6 | Machine Learning Fundamentals | Introduction to machine learning and AI, Machine learning approaches, Basics of Statistics and Probability, Statistics and Its types , Numerical and Categorical data, Measures of Center: Mean, Median, Mode, Range, Variance, Standard Deviation, Percentile, Z-score, Data Preparation, Dataset, Data Preprocessing, Outlier detection, Missing value imputation, Encoding, Categorical Data, Splitting Data, Feature scaling | 10 |
| 7 | Machine learning Algorithms | Introduction to Supervised Learning, Unsupervised learning, ,Training Testing and Cross Validation Data, Regression and Classification, Regression Algorithms Simple Linear Regression, Multiple Linear Regression, Decision Tree, Random Forest ,Classification Algorithms, Logistic Regression, KNN, | 15 |
| 8 | Deep Learning | Neuron, Neural Networks ,Activation Functions & its Types, Gradient Descent, Back propagation, Artificial neural network, Convolutional Neural Networks | 9 |