

Name of The Course: *Internship program on Futuristic Technologies*

Duration (in Hrs.): 4 Weeks

Fee (in Rs.): Rs 1888/-

Eligibility: Diploma/B.Sc./B. Tech./ ITI/ BSc. In Computer Science and Information Technology. (Completed or Pursuing).

Mode of Training: Online

Course Coordinator: Mr. Satya Pr. Tiwari, Joint Director

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Course Content:

<i>UNIT I:Introduction to Python Programming</i>					
Day	Topic	Sub Topic	Duration (in Min.)		
			Theory	Practical	Total
1	Setting Up the Work Environment	The Course Overview	15	15	30
		Downloading and Installing Python			
		Installation of Anaconda Navigator			
		Jupyter IDE			
	The Basics	Data Types and Variables	30	30	60
		Arithmetic Operations			
		Understanding the Order of Operators			
		Comments			
		Variables Scope			
		Command Line Arguments			
Control Statements	If Statements	15	15	30	
	Else Statements				
	Elif Statements				
2	Loops	While Loops	20	20	40
		For Loops			
		Break, Continue and Else			
	Sequences	Range0	40	40	80
		String			
		Tuple			
		List			
		Dictionary			
Set					
Indexing, Sequencing and Slicing					
3	Mathematical Function	Numerics	15	15	30

		Generating Random Numbers			
	Datatype Conversions		15	15	30
	Functions	Syntax Overview	30	30	60
		More on Parameters			
		More on Returns			
		Arbitrary Arguments			
4	Exception Handling	Try, Except, Finally	15	15	30
		Raising Exceptions			
	Modules	Using Modules	15	15	30
		Creating Modules			
	Packages	Creating Packages	15	15	30
	File Handling	Opening Files	15	15	30
	Reading and Writing Test Files				
5	Object Oriented Programming with Python	Overview of Classes and Objects	30	30	60
		Using 'Class'			
		Using Methods			
		Use Object Data			
		Inheritance			
	Database Handling with SQLite	Installing SQLite browser	30	30	60
		Creating a Database			
		Insert and Update Records			
		Retrieve and Delete Records			

UNIT II :Introduction to Artificial Intelligence

Day	Topic	Sub Topic	Duration (in Min.)		
			Theory	Practical	Total
1 & 2	Introduction to AI	What is AI?	150	90	240
		Component of AI			
		What's involved in AI			
		Application of AI			
		Important Packages of Python for AI			
3	Natural Language Processing(NLP)	Components in NLP and its Terminology		120	120
		NLP Projects Like chatbot			
4 & 5	Machine Learning	Supervised, Unsupervised and Reinforcement Learning	150	90	40
		Classification, Regression & Clustering			
		Machine Learning Algorithms			

UNIT III :Introduction to Machine Learning					
Day	Topic	Sub Topic	Duration (in Min.)		
			Theory	Practical	Total
1	Introduction Machine Learning	History	60	60	120
		What Is ML?			
		What is the Algorithm?			
		Types of Algorithm in ML?			
		Examples of the ML			
		Python Installation and Jupyter IDE installation			
		Introduction to OOP's			
		Python Data types, Control Structure and Functions			
2	Matplotlib	Data Visualization with Python	60	60	120
		Installation of Matplotlib			
		Creating Static, interactive visualization like Bar Graph, Line Graph, Subplot, Scatter Plot, Histogram, Pie Chart, Plot Merging, etc.			
3	Data Analysis	Data Analysis and Exploration using Numpy and Pandas	60	60	120
		Installation of Numpy and Pandas			
		Data Manipulation using Numpy			
		Pre-processing of Machine Learning using Pandas			
4	Algorithms	Regression Algorithm and Its Mathematical Model	60	60	120
		What is the Simple Linear Algorithm, Multiple Linear Algorithm and Polynomial Linear Algorithm			
		implementation of Regression Algorithm using Python			
5	Tree, Forest and Logistic Regression	Decision Tree Algorithm and its implementation using Python	60	60	120
		Random Forest and its implementation using Python			
		Introduction to KNN and Logistic Regression			
		Doubt Clearing Session			

UNIT IV:Introduction to Blockchain				
Day	Topic	Duration (in Min)		
		Theory	Practical	Total
1	Introduction of Blockchain?	60	60	120
	How Blockchain Works?			
2	Blockchain vs Bitcoin	60	60	120
	Why Blockchain is used.			
	Where Blockchain technology required.			
3	Introduction to Ethereum			
	Bitcoin vs Ethereum Blockchain			
	Introduction to Ethereum			
4	What is Ethereum wallet?	60	60	120
	What is Smart Contract?			
5	Introduction of solidity.	60	60	120
	Discussion on current research on Blockchain			
	Conclusion			