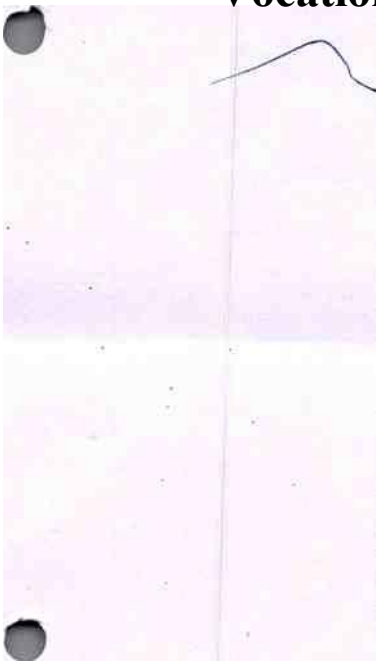


Vocational Course on Python Mastery-Semester 1

VOC145



Title of the course : Python Mastery: SuperSkills Elite Level 1
 Duration : 6 months (online)
 Broad Area/Sector : **Programming**
 Sub Sector : **Coding**
 Name of Proposed Skill Partner : **AnsrCoach Eduventures Pvt. Ltd.**
 Job Prospects : Python Developer, Data Scientist, Data Analyst,
Machine Learning Engineer, Software Engineer, Web Developer, Backend Developer, FullStack Developer, DevOps Engineer, Automation Engineer, AI Engineer, Research Scientist, Game Developer, Natural Language Processing (NLP) Engineer, System Administrator

Unit	Topic	General/Skill Development	Theory/Practical/ Training/Internship	Number of theory Hours	Number of Skill Hours
Unit 1	Introduction to Python Programming <ul style="list-style-type: none"> • Introduction to Python and its features • Setting up the Python Development Environment 	General	Theory	6	
	<ul style="list-style-type: none"> • Basic Python syntax and data types • Variables, operators, and expressions in Python • Writing programs to solve basic and intermediate problems 	Skill Development	Practical		15
Unit 2	Control Flow and Decision Making <ul style="list-style-type: none"> • Conditional statements (if, else if, else) • Looping constructs (for and while loops) 	General	Theory		
	<ul style="list-style-type: none"> • Break, continue, and pass statements • Exception handling with try and except • Implementing control flow in programs to solve real- 	Skill Development	Practical		20

	world scenarios.				
Unit 3	Data Structures in Python <ul style="list-style-type: none"> • Lists, tuples, and dictionaries • Working with sets and frozen sets. 	General	Theory	4	
	<ul style="list-style-type: none"> • Understanding strings and string manipulation • Exploring file handling and input/output operations • Implementing data structures to solve complex problems 	Skill Development	Practical		25

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Vocational Course on Python Mastery-Semester 2

Title of the course : Python Mastery: SuperSkills Elite Level 2
 Duration : 6 months (online)
 Broad Area/Sector : Programming
 Sub Sector : Coding
 Name of Proposed Skill Partner : AnsrCoach Eduventures Pvt. Ltd.
Job Prospects : Python Developer, Data Scientist, Data Analyst,
 Machine Learning Engineer, Software Engineer, Web Developer, Backend Developer, Full-
 Stack Developer, DevOps Engineer, Automation Engineer, AI Engineer, Research Scientist, Game Developer, Natural Language Processing (NLP) Engineer, System Administrator

Unit	Topic	General/Skill Development	Theory/Practical/ Training/Internship	Number of theory Hours	Number of Skill Hours
Unit 1	Functions and Modules <ul style="list-style-type: none"> Defining and calling functions Function arguments and return values 	General	Theory		
	<ul style="list-style-type: none"> Scope and variable visibility Introduction II to and importing modules in Python Developing modular programs using functions and reusable modules 	Skill Development	Practical		20
Unit 2	Object-Oriented Programming (OOP) in Python <ul style="list-style-type: none"> (classes, objects, attributes, and methods) Encapsulation, inheritance, and polymorphism 	General	Theory	6	
	<ul style="list-style-type: none"> Working with modules and packages in an OOP Understanding the concept of inheritance and method overriding Implementing OOP principles to design and develop applications 	Skill Development	Practical		20
Unit 3	File Handling and Data Processing <ul style="list-style-type: none"> Reading from and writing to files Processing structured data (CSV, JSON, XML) 	General	Theory	4	

	<ul style="list-style-type: none">Working with databases using PythonManipulating and analysing data with Python libraries (NumPy, Pandas) Building data processing pipelines for real-world datasets	Skill Development	Practical		20





Vocational Course on Python Mastery-Semester 3



Title of the course : Python Mastery: SuperSkills Elite Level 3
 Duration : 6 months (online)
 Broad Area/Sector : Programming
 Sub Sector : Coding
 Name of Proposed Skill Partner : AnsrCoach Eduventures Pvt. Ltd.
Job Prospects : Python Developer, Data Scientist, Data Analyst,
 Machine Learning Engineer, Software Engineer, Web Developer, Backend Developer, FullStack Developer, DevOps Engineer, Automation Engineer, AI Engineer, Research Scientist, Game Developer, Natural Language Processing (NLP) Engineer, System Administrator

Unit	Topic	General/Skill Development	Theory/Practical/ Training/Internship	Number of theory Hours	Number of Skill Hours
Unit 1	Web Development with Python <ul style="list-style-type: none"> introduction to web development frameworks (e.g., Django, Flask) Building web applications using Python 	General	Theory	8	
	<ul style="list-style-type: none"> Handling HTTP requests and responses Basic database integration for web applications Developing dynamic web applications using Python frameworks 	Skill Development	Practical		35
Unit 2	Data Visualization and Analysis <ul style="list-style-type: none"> Introduction to data visualization libraries (matplotlib, Seaborn) Plotting and customizing charts and graphs 			7	
	<ul style="list-style-type: none"> Exploratory data analysis using Python Presenting insights and findings with visualizations Creating interactive and visually appealing data visualizations 				25



Vocational Course on Python Mastery-Semester 4



Title of the course

Python Mastery: SuperSkills Elite Level 4

Duration : 6 months (online)
 Broad Area/Sector : **Programming**
 Sub Sector : **Coding**
 Name of Proposed Skill Partner : **AnsrCoach Eduventures Pvt. Ltd.**
 Job Prospects : Python Developer, Data Scientist, Data Analyst,

Stack Developer, DevOps Engineer, Automation Engineer, AI Engineer, Research Scientist, Game Developer, Natural Language Processing (NLP) Engineer, System Administrator

Unit	Topic	General/Skill Development	Theory/Practical/ Training/Internship	Number of theory Hours	Number of Skill Hours
Unit 1	Introduction to Artificial Intelligence and Machine Learning <ul style="list-style-type: none"> Overview of AI and ML concepts Introduction to popular ML libraries (Scikit-Learn, TensorFlow) 	General	Theory	15	
	<ul style="list-style-type: none"> Implementing ML algorithms in Python Building and training ML models for various tasks Developing end-to-end AI/ML applications using Python 	Skill Development	Practical		60