IMC Chamber of Commerce and Industry (Formerly Indian Merchant Chamber) & Vidyalankar Consultancy Services

Joint Certified Skill Development Courses

Sr.	Course Code	Course Name	Location	Duration	Start Date	Sessions on	Timings	Fees in ₹
1	4513811	Core Python Programming	VIT	30 Hrs.	21/09/2019	Sept. 21, 22, 28, 29 Oct. 2	09.00 - 15.30	5,500/=
2	4513821	Data Science & Visualization using Python Programming	VIT	40 Hrs.	21/09/2019	Sept. 21, 22, 28, 29 Oct. 2, 5 & 6	09.00 - 15.30	5,900/=
3	4513822	Machine Learning using Python Programming	VIT	40 Hrs.	21/09/2019	Sept. 21, 22, 28, 29 Oct. 2, 5 & 6	09.00 - 15.30	5,900/=
4	4513861	Image Processing with OpenCV & Pillow using Core Python	VIT	40 Hrs.	21/09/2019	Sept. 21, 22, 28, 29 Oct. 2, 5 & 6	09.00 - 15.30	5,900/=
5	4523811	Embedded/IoT Designing using Arduino & Raspberry-Pi-3	VIT	35 Hrs.	21/09/2019	Sept. 21, 22, 28, 29 Oct. 2 & 5	09.00 - 15.30	5,500/=

Highlights of the Courses –

- Course open to VIT / VP / VSIT and External Students
- Intensive & continuous Laboratory Hands-on Training
- Dual Certification by VIT and IMC/VCS
- On-line Examination and assessment
- Take-home kit with Pen-drive & Hand-out booklet
- Select participants get Industry Internship / Industry live project in Winter Break with Internship letter on completion (Period: Dec.10 to Dec. 31, 2019)
- Placement assistance (Only Final year)

Course Code	4513811	
Course Fees	₹ 5500	
Course Name	Core Python Programming	
Domain	Python Programming	
No. of Hours	40	
Prerequisite	Basic Programming knowledge	
Eligibility	• SE/TE/BE Degree Engineering Students • SYBSc(IT/COMPS)/TYBSc(IT/COMPS) Science Students • SY/TY Diploma Engineering Students	
Module	**Contents**	**Hours**
Module-1	**Introduction & Structured Programming in Python -** Basic Data Types, Advanced Data Types & Sequences, Decisions – IF, IF…ELIF, Control Structures – FOR, WHILE	05
Module-2	**Functions in Python -** Named Functions, anonymous function. Range, Lambda, Filter, Map, DateTime Functions.	05
Module-3	**Object Oriented Programming (OOP) in Python -** Class definition and instantiation, variables & methods – instance and class, static method, inheritance, overloading, MRO, polymorphism.	06
Module-4	**GUI development in Python -** Tkinter module- Canvas, Frame, Widgets. GUI and Database based application development.	09
Module-5	**File and Database Handling in Python -** File handling basics, read/write access, CSV file Data Access, Database Access	05

Course Code	4513821	
Course Fees	₹ 5900	
Course Name	Data Science & Visualization using Python Programming	
Domain	Data Science / Python Programming	
No. of Hours	40	
Prerequisite	Basic Programming knowledge	
Eligibility	• SE/TE/BE Degree Engineering Students • SYBSc(IT/COMPS)/TYBSc(IT/COMPS) Science Students • SY/TY Diploma Engineering Students	
Module	**Contents**	**Hours**
Module-1	**Introduction & Structured Programming in Python -** Basic Data Types, Advanced Data Types & Sequences, Decisions – IF, IF…ELIF, Control Structures – FOR, WHILE	05
Module-2	**Functions in Python -** Named Functions, anonymous function. Range, Lambda, Filter, Map, DateTime Functions.	05
Module-3	**Object Oriented Programming (OOP) in Python -** Class definition and instantiation, variables & methods – instance and class, static method, inheritance, overloading, MRO, polymorphism.	06
Module-4	**GUI development in Python -** Tkinter module- Canvas, Frame, Widgets. GUI and Database based application development.	09
Module-5	**File and Database Handling in Python -** File handling basics, read/write access, CSV file Data Access, Database Access	05
Module-6	**Data Visualization –** MatPlotLib tool, Using MatPlotLib, Visualizing data in Bar Charts, Histogram, Line/Scatter Plots, Pie Charts etc. Case Study	03
Module-7	**Data Science –** Study of NumPy, Study of Data Science tool – Pandas, Using Pandas, Data-Frames, Analysis using MatPlotLib, NumPy and Pandas, Real world Data Science Case Study	07

Course Code	4513822	
Course Fees	₹ 5900	
Course Name	Machine Learning using Python Programming	
Domain	Data Science / Python Programming	
No. of Hours	40	
Prerequisite	Basic Programming knowledge	
Eligibility	• SE/TE/BE Degree Engineering Students • SYBSc(IT/COMPS)/TYBSc(IT/COMPS) Science Students • SY/TY Diploma Engineering Students	
Module	**Contents**	**Hours**
Module-1	**Introduction & Structured Programming in Python -** Basic Data Types, Advanced Data Types & Sequences, Decisions – IF, IF…ELIF, Control Structures – FOR, WHILE	05
Module-2	**Functions in Python -** Named Functions, anonymous function. Range, Lambda, Filter, Map, DateTime Functions.	05
Module-3	**Object Oriented Programming (OOP) in Python -** Class definition and instantiation, variables & methods – instance and class, static method, inheritance, overloading, MRO, polymorphism.	06
Module-4	**GUI development in Python -** Tkinter module- Canvas, Frame, Widgets. GUI and Database based application development.	09
Module-5	**Introduction to Machine Learning -** What is ML, History, Real Life Applications, Use in various Contexts	03
Module-6	**Supervised Learning and Regression –** Introduction to Supervised Learning, Linear Regression, Logistic Regression, Multivariate Regression, Evaluation Measures – RMS and RO Curve, Machine Learning Case Study	07
Module-7	**Classification, Unsupervised Learning -** Classifiers, What is Model, Decision Tree Model building, Parameter Tuning, Evaluating the Classifiers, Unsupervised learning, Clustering, Case Study	05

Course Code	4513861	
Course Fees	₹ 5900	
Course Name	Image Processing using OpenCV/Pillow with Core Python	
Domain	Data Science / Python Programming	
No. of Hours	40	
Prerequisite	Basic Programming knowledge	
Eligibility	• SE/TE/BE Degree Engineering Students • SYBSc(IT/COMPS)/TYBSc(IT/COMPS) Science Students • SY/TY Diploma Engineering Students	
Module	**Contents**	**Hours**
Module-1	**Introduction & Structured Programming in Python -** Basic Data Types, Advanced Data Types & Sequences, Decisions – IF, IF…ELIF, Control Structures – FOR, WHILE	05
Module-2	**Functions in Python -** Named Functions, anonymous function. Range, Lambda, Filter, Map, DateTime Functions.	05
Module-3	**Object Oriented Programming (OOP) in Python -** Class definition and instantiation, variables & methods – instance and class, static method, inheritance, overloading, MRO, polymorphism.	06
Module-4	**GUI development in Python -** Tkinter module- Canvas, Frame, Widgets. GUI and Database based application development.	09

Module-5	**Introduction to OpenCV and Pillow -** Load and store images, scaling and resizing images, flipping images, Varying Brightness	05
Module-6	**Operations on Images** Bit Wise operations, Burring and Shaping Images, Thresholding, Erosion and Dilation of Images, Edge Detection, Image Segmentation	06
Module-7	**Applications development in Image Processing -** Real Time Object Detection, Real world Case study using OpenCV/Python	04

Course Code	4523811	
Course Fees	₹ 5500	
Course Name	Embedded/IoT Designing with Arduino & Raspberry-Pi-3	
Domain	Embedded Systems Design / Internet of Things	
No. of Hours	35	
Prerequisite	Basic Programming knowledge	
Eligibility	• SE/TE/BE Degree Engineering Students • SYBSc(IT/COMPS)/TYBSc(IT/COMPS) Science Students • SY/TY Diploma Engineering Students	
Module	**Contents**	**Hours**
Module-1	**Fundamentals of Embedded Systems -** Introduction to MCUs and Sensors.	04
Module-2	**Arduino Uno Interfacing -** Interfacing different Sensors, Displays Motors, Keyboards with Arduino Uno using Embedded C Programming	10
Module-3	**Study of Node MCU -** Introduction of Node MCU, Wi-Fi capabilities of Node MCU, Setting up Node MCU for Arduino IDE, Node MCU Interfacing – Sensors and other peripherals. Wi-Fi / IoT applications using Node MCU	10
Module-4	**Basic concepts of Python Programming -** Basics Data Types, Conditional Statements, Decision Making, Functions, Classes, Modules, Importing Libraries	04
Module-5	**Interfacing Sensors with R-Pi-3 -** Python Scripting, interfacing peripheral units with R-Pi-3 – Python Scripting, Wi-Fi and IoT Capabilities of R-Pi-3 and IoT Applications, Cloud based IoT tools, R-Pi-3	04
Module-6	**Application development on R-Pi-3 –** Case Study example with sensor integration and python coding.	03