



International Centre for Information Systems & Audit



Course Schedule NTP on

“Introduction to Python programming language”

(For IA&AS Officers)

(20th August to 23rd August, 2024)

Date	Topic	Time (in hrs)
	20-08-2024 (Day-1)	
	Registration from 9:30 am	
	Inauguration	09:45 – 10:00
Session 1 (Day 1)	Introduction to Python : Overview of Python, installation, Jupyter Notebook IDE setup, basic syntax	10:00-11:15
	Ms. Niti Sethi, Consultant, CDMA,O/o the C&AG of India & Mr. Vaibhav Rawat, AAO, iCISA	
	Tea Break	11:15 – 11:45
Session 2 (Day 1)	Variables and Data Types: Variables, data types (int, float, string, boolean), type conversion	11:45 – 13:15
	Ms. Niti Sethi, Consultant, CDMA,O/o the C&AG of India & Mr. Vaibhav Rawat, AAO, iCISA	
	Lunch Break	13:15 – 14:00
Session 3 (Day 1)	Control Structures: Conditional statements (if, else, elif), loops (for, while), Data Structures: Lists, tuples, sets, dictionaries	14:00 – 15:30
	Ms. Niti Sethi, Consultant, CDMA,O/o the C&AG of India & Mr. Vaibhav Rawat, AAO, iCISA	
	Tea Break	15:30 – 16:00
Session 4 (Day 1)		16:00 – 17:30
	Ms. Niti Sethi, Consultant, CDMA,O/o the C&AG of India & Mr. Vaibhav Rawat, AAO, iCISA	
	21-08-2024 (Day-2)	
Session 1 (Day 2)	Functions and Modules: Importing modules, Working with Strings: String operations, formatting, methods, and manipulations	09:45 – 11:15
	Ms. Niti Sethi, Consultant, CDMA,O/o the C&AG of India & Mr. Vaibhav Rawat, AAO, iCISA	
	Tea Break	11:15 – 11:45
Session 2 (Day 2)	File I/O: Reading from and writing to files, handling exceptions Hands-on Practice: Practical exercises covering Days 1-2 topics	11:45 – 13:15
	Ms. Niti Sethi, Consultant, CDMA,O/o the C&AG of India & Mr. Vaibhav Rawat, AAO, iCISA	
	Lunch Break	13:15 – 14:00
Session 3 (Day 2)	Introduction to NumPy: Arrays, array operations, basic NumPy functions	14:00 – 15:30
	Dr. Deepika Pantola , Asst. Professor, Bennett University	

	Tea Break	15:30 – 16:00
Session 4 (Day 2)	Introduction to Pandas: Series, DataFrames, data manipulation with Pandas	16:00 – 17:30
	Dr. Deepika Pantola , Asst. Professor, Bennett University	
22-08-2024 (Day 03)		
Session 1 (Day-3)	Data Cleaning: Handling missing data, duplicates, data transformation	09:45 – 11:15
	Mr. Anil Goyal, SAO, O/o the C&AG of India	
	Tea Break	11:15 – 11:45
Session 2 (Day-3)	Hands-on with NumPy and Pandas: Practical exercises using NumPy and Pandas	11:45 – 13:15
	Mr. Anil Goyal, SAO, O/o the C&AG of India	
	Lunch Break	13:15 – 14:00
Session 3 (Day 3)	Exploratory Data Analysis (EDA): Techniques for EDA, summarizing data, initial data exploration	14:00 – 15:30
	Mr. Vaibhav Rawat, AAO, iCISA	
	Tea Break	15:30 – 16:00
Session 4 (Day 3)	Application of Python in Audit (Audit of Vahan) : A case study	16:00 – 17:30
	Ms. Niti Sethi, Consultant, CDMA,O/o the C&AG of India	
23-08-2024 (Day-4)		
Session 1 (Day-4)	Data Visualization with Matplotlib & Seaborn : Hands on sessions using audit datasets as case study	09:00 – 10:30
	Dr. Deepika Vatsa, Asst. Professor, Bennett University, Greater Noida	
	Tea Break	10:30 – 11:00
Session 2 (Day-4)	Data Visualization with Matplotlib & Seaborn: Hands on sessions using audit datasets as case study	11:00 – 12:30
	Dr. Deepika Vatsa, Asst. Professor, Bennett University, Greater Noida	
	Lunch Break	12:30– 13:15
Session 3 (Day 4)	Hands-on EDA: Practical exercises performing EDA on sample datasets	13:15 – 14:30
	Mr. Vaibhav Rawat, AAO, iCISA	
	Tea Break	14:30 – 15:00
Session 4 (Day 4)	Case Study and evaluation exercise	15:00 – 16:00
	Mr. Vaibhav Rawat, AAO, iCISA	
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