Day-Wise Course Content

Day-Wise content- First Two weeks - AI/ML and Data Analytics-iCISA, Noida

First two weeks

Day	Session	Timing	Topic	Outcomes
1	1	9.30 AM - 11.15 AM	Introduction to Power BI and its Importance in Audit and Finance	Understanding the **Power BI Ecosystem** (Desktop, Service, Mobile).
				How Power BI drives **data-driven auditing** (Continuous Auditing, Fraud Detection, Anomaly Detection) and **financial analysis** (Budget vs. Actual, Forecasting).
				The Power BI development lifecycle.
	2	11.45 AM - 1.30 PM	Getting Data into Power BI (The ETL Process)	Common Data Sources Connection,
				Power Query Editor
				Data Cleaning & Shaping
	3	2.30 PM - 4.15 PM	Data Modelling Fundamentals	Best practices for table relationships, Role of Dimension and Fact tables
	4	4.45 PM - 6.30 PM	Introduction to DAX (Data Analysis Expressions)	Calculated Figures and KPI Creation
2	1	9.30 AM - 11.15 AM	Advanced DAX for Audit and Finance	Comparative Metrics
				Time Intelligence Functions
	2	11.45 AM - 1.30 PM	End-to-End Dashboard Development - Part 1: Report Design	Visualization Best Practices, Slices and Filters Create drill through pages for detailed analysis
	3	2.30 PM - 4.15 PM	End-to-End Dashboard Development - Finalizing & Testing	Dashoard Story Telling. Data security Checks.
				Comprehensive Report Testing and Validation
	4	4.45 PM - 6.30 PM	Power BI Service and Secure Report Sharing	Understanding Workspaces and content organization.
				Sharing reports and dashboards
				Monitoring usage and performance in the Service.
				Datasets used for sessions - Financial
				Transaction & New Transactions and Expenditure

				Pattern of State Government
3	1	9.30 AM - 11.15 AM	Introduction to No-Code Data Science using Orange	Overview of the Orange Platform
				Widget Categories (Data, Visualize, Model, Unsupervised, etc.).
	2	11.45 AM - 1.30 PM	Loading and Inspecting Data	Load common datasets
				Data Types & Roles
				Data Info
	3	2.30 PM - 4.15 PM	Basic Data Filtering and Cleaning	Handling Missing Values
				Imputation
				Include /exclude features
	4	4.45 PM - 6.30 PM	Data Transformation	Discretization
				Normalization/Standardization
				Combining and joining datasets
4	1	9.30 AM - 11.15 AM	Visualizing Single Variables (Univariate)	Working with Histograms
	2	11.45 AM - 1.30 PM	Visualizing Relationships (Bivariate & Multivariate)	Scatter Plots
				Introduction to the Linear Projection and PCA widgets
	3	2.30 PM - 4.15 PM	Interactive Data Exploration	Interactive Selection Visualizing Subsets
	4	4.45 PM - 6.30 PM	Advanced Visuals and Reporting	Advanced visualization- Heat Map, Silhouette Plot
				Report Creation
5	1	9.30 AM - 11.15 AM	Clustering Concepts and Distances	Defining Distance Metrics Distance widget
	2	11.45 AM - 1.30 PM	Hierarchical Clustering	Understanding Linkage Methods using
				Hierarchical Clustering widget
				Interpreting the Dendrogram
	3	2.30 PM - 4.15 PM	K-Means Clustering	Exploring initialization methods using K Means widget
	4	4.45 PM - 6.30 PM	Evaluating and Explaining Clusters	Using plots to evaluate clusters
				Datasets used for sessions -Order Details,
				Superstore Orders, Beverage Costing, Predict
				Risk &Customer Airline Travel
6	1	9.30 AM - 11.15 AM	Introduction to Deep Learning	Fundamentals of neural networks, activation functions, and architectures
	2	11.45 AM - 1.30 PM	Introduction to Keras - Handson	Building and training neural networks using Keras
	3	2.30 PM - 4.15 PM	Introduction to Regression and	Data preparation, model design, and performance evaluation

			Classification with DNN	
	4	4.45 PM - 6.30 PM	Regression and Classification using DNN : Hands-on	Tuning, testing, and interpreting DNN outputs for predictive analytics
7	1	9.30 AM - 11.15 AM	Natural Language Processing - Theory	Introduction to NLP concepts, text preprocessing, and language representation techniques
	2	11.45 AM - 1.30 PM		
	3	2.30 PM - 4.15 PM	Lab session on NLP Basics	Practical exercises on tokenization, stemming, and vectorization using NLP libraries
	4	4.45 PM - 6.30 PM	Lab session on Sentiment Analysis using LSTM	Hands-on implementation of sentiment classification using LSTM neural networks
8	1	9.30 AM - 11.15 AM	Times Series Theory	Introduction to Time Series Forecasting Time Series Analysis
	2	11.45 AM - 1.30 PM		Moving Average Methods
				Seasonality and Trends
				Autocorrelation
				AR,MA and ARIMA Models
				Case Study Examples
	3	2.30 PM - 4.15 PM	Times Series Hands on	Time Series Analysis
				Moving Average Methods
				Seasonality and Trends
				Autocorrelation
				AR,MA and ARIMA Models
				Dataset used - Air Passengers and Daily
	4	4.45 PM - 6.30 PM		Mininmum temperature
9	1	9.30 AM - 11.15 AM	Custom PDF Chatbot - Demo	In class demonstration
	2	11.45 AM - 1.30 PM		
	3	2.30 PM - 4.15 PM	Case study give away	Project group formation and case study give away
	4	4.45 PM - 6.30 PM		
10	1	9.30 AM - 11.15 AM	Case study doubt clearing session	
	2	11.45 AM - 1.30 PM		
	3	2.30 PM - 4.15 PM	Exam	Objective type exam on theory taught
	4	4.45 PM - 6.30 PM		

Third Week: Cybersecurity

Day	Module	Topic
1	Module 1	Fundamentals of IT, Cyber and Information for Security
2	Module 2	Introduction to Cryptography with Applications of Use
3	Module 3	Network Security with Devices and Management
4	Module 4	Application Security with Web and Mobile Log Identification
5	Module 5 & 6	Vulnerability Assessment & Identification using OSINT, Security Operations & Log Handling

4th Week: - AI & Data Analytics

Day	Session	Timing	Topic
1	1	9.30 AM - 11.15 AM	Introduction to Computer Vision
	2	11.45 AM - 1.30 PM	
	3	2.30 PM - 4.15 PM	Computer Vision - Hands on
	4	4.45 PM - 6.30 PM	
2	1	9.30 AM - 11.15 AM	Industry expert talks on NLP
	2	11.45 AM - 1.30 PM	Final case study group work
	3	2.30 PM - 4.15 PM	
	4	4.45 PM - 6.30 PM	
3	1	9.30 AM - 11.15 AM	Introduction to GEN AI
	2	11.45 AM - 1.30 PM	
	3	2.30 PM - 4.15 PM	
	4	4.45 PM - 6.30 PM	Final case study group work
4	1	9.30 AM - 11.15 AM	Final case study presentations
	2	11.45 AM - 1.30 PM	
	3	2.30 PM - 4.15 PM	
	4	4.45 PM - 6.30 PM	
5	1	9.30 AM - 11.15 AM	Final case study presentations
	2	11.45 AM - 1.30 PM	
	3	2.30 PM - 4.15 PM	Feedback and Certificate Distribution
	4	4.45 PM - 6.30 PM	

*Additionally, the learners will be required to complete 30 hours of project work as part of the program requirements.