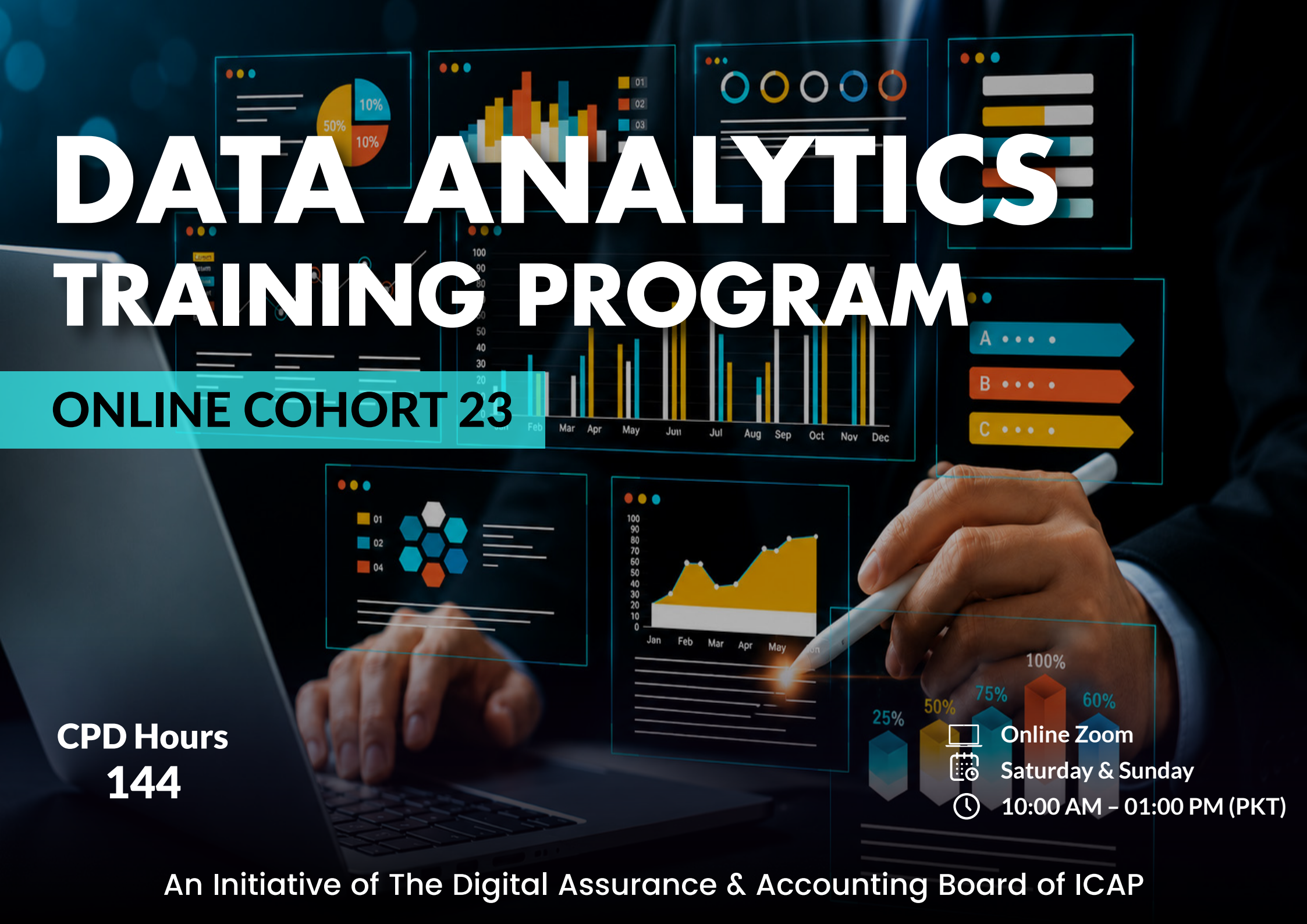

DATA ANALYTICS
TRAINING PROGRAM
ONLINE COHORT 23
CPD Hours
144
Online Zoom
Saturday & Sunday
10:00 AM – 01:00 PM (PKT)
An Initiative of The Digital Assurance & Accounting Board of ICAP

DATA ANALYTICS TRAINING PROGRAM (COHORT 22)

The Institute of Chartered Accountants of Pakistan (ICAP) is a prestigious regulatory body with a proud history of providing chartered accountancy qualification, and investing in professional growth and development of its members.

ICAP by Digital Assurance & Accounting Board (DAAB), in response to challenges brought by emerging digital technology, introduced an extensive course on Data Analytics in 2021.

The course is intended for professionals using data for finance, audit and other business decisions. It is aimed to provide the participants with skillset, to understand and create financial models using software & tools to have better insights for improved decision making in timely and efficient manner. It emphasizes on financial modeling, forecasting, technical software and system language that facilitate prediction of potential results based on patterns.

The three course modules total of 144 hours, are designed in a way that each module is a level higher to the preceding one, exploring tools for data from descriptive to predictive analytics. Each module is followed by two hourly practice session.

By the end of the program, you will be able to learn below skills;

1. Building Dashboards and Data transformation
2. Predictive Modeling and Statistical Analysis
3. Data Mining and Business Intelligence
4. Predictive Modeling, programming and coding

Details	Module A: Financial modelling, forecasting and dashboarding with MS. Excel	Module B: Power BI, Power Query & DAX, DATA Visualization & Story Telling	Module C: Data Analytics using Python with Basic of AI
CPD hours	44 hours	44 hours	56 hours
Classroom	42 hours	42 hours	45 hours
Practice Session	2 hours	2 hours	2 hours
			Hands on practical (9 Hours)

Dates

Classes Commencing from 27th January 2027 (tentative)

Time

Online batch Via Zoom: Every Saturday & Sunday 10:00 am – 01:00 pm (PKT.)

(The ICAP management reserves the right to change the schedule due to sudden holiday or for unforeseen reasons)

Course Pre-Requisite

1. Participants are required to have MS Office 365 preferably or 2019 and Power BI desktop installed.
   For Mac laptops, the participants will also be required to pre-install Microsoft Windows Virtual Machine
2. Knowledge of Ms. Excel (minimum basic level);

Course Guidelines

3. Eligibility for Module C is restricted to participants who have successfully completed both Module A and Module B.
4. Cameras to be turned ON during the lecture for attendance.
5. Minimum 75% attendance is to be maintained to be eligible for the assessment.
6. Certificate will be awarded to participants meeting passing criteria for the assessment.

Venue

Online via Zoom

Who Should Attend:

- ICAP Affiliates
- Chartered Accountants
- Executive Management
- Finance Professionals

Course Contents

Module A:
Financial Modeling, Forecasting and Dashboard Reporting using MS Excel

Financial Modeling

Financial modeling helps business leaders in making informed decision based on data analytics. In this course, you will learn how to create financial models for budgeting, forecasting and corporate valuation. The course will also include revenue & expense modeling, assets and liabilities, depreciation, and taxation as well as financing and taxation. Finally, the course will also cover presenting the outcome in the form of dashboards along with the capability to perform what-if analysis.

In this module, we will cover a three-statements financial model using Microsoft Excel. Exercises will be used throughout the module to provide a practical understanding of these key topics. Participants will be able to create an integrated financial model, analyze the impact of using variable input fields, protect the content and layout of the model, share the model with other participants and present the outcome in a visually appealing dashboard.

Learning outcomes

- Describe financial modeling basics
- Apply best practices in financial modeling
- Design the layout and structure of the model
- Review the three financial statements used in financial modeling
- Discuss and develop various components of the model - revenue and expenses, assets & depreciation, debt and equity, dividends and taxation etc.
- Explore the valuation process in financial models.
- Discuss error handling and error proofing of the model
- Enable the user to perform a what-if analysis based on multiple variables
- Present the outcome of financial model in a concise dashboard

Advanced MS Excel

Microsoft Excel is the world's most popular spreadsheet tool, allowing users to summarize and organize data, identify trends and perform meaningful computations. It also helps users to appropriately assessing the situations and make better business decisions.

Excel allows you to analyze large volume of data swiftly and efficiently. It includes performing sensitivity analyses (also known as what-if analyses) utilizing tools such as Goal Seek, Scenario Manager and Data Tables.

In this course, you will learn how to take your Excel skills to the next level. This course will give you a deep understanding of the advanced Excel formulas and functions that transform Excel from a basic spreadsheet program into a dynamic and powerful analytical tool.

Learning outcomes

- Learn powerful formulas to lookup, summarize and arrange complex data sets
- Join datasets from multiple sources with VLOOKUP, XLOOKUP, INDEX & MATCH functions
- Manipulate dates, time, text, and arrays
- Sort, summarize and format data based on multiple conditions
- Perform complex data analysis using pivot tables
- Perform what-if analysis using goal seek, data tables and scenarios
- Create dashboards using dynamic charts that adjust to data

Dashboard Reporting using MS Excel

This course will cover the basic components of a dashboard in Excel: tables, PivotTables, Pivot Charts, slicers, and timelines. Learn how to design and present interactive and visually appealing dashboards so they can be shared with your key business stakeholders. This course will teach you quick, easy-to-use tips and techniques so you can start visualizing your data right way.

The course shall also take practical examples of multiple functions in an organization, e.g. Finance, HR, Sales & Marketing, Production, Supply Chain etc. to equip the users with broad range of experience.

Why should you learn Dashboard Reporting using MS Excel?

Creating dashboards for stakeholders including senior management can be overwhelming, especially when data comes in from different sources, requires various calculations and summarizations. You shall learn how to extract the information you need using PivotTables and display it with linked shapes and pictures and Pivot Charts. You can discover dozens of useful Excel dashboard tips and tricks along the way which will help you creating your own data-rich dashboards.

Learning outcomes

- Creating draft of the deliverables / requirements
- Import, clean and transform data
- Choosing the right visual to deliver a message
- Working with Pivot Tables and Pivot Charts
- Add interactivity with slicers, timelines
- Value based formatting of data
- Building dynamic dashboards
- Design and arrange the dashboard layout
- Protect and share dashboards

Financial Forecasting using MS Excel

This course will equip the learners with the skills to forecast data based on historical trends; including how to display time-series data visually while ensuring that the forecasts are accurate; use trendlines to identify trends and outlier data; model growth; account for seasonality; and identify unknown variables.

Learning outcomes

- Show time-series data by plotting and displaying information
- Devise a moving average chart
- Account for errors and bias in data
- Create, interpret and utilize trendlines
- Determine how to model exponential growth & compound annual growth
- Analyze the impact of seasonality

Module B: Microsoft Power BI

(Power Query and DAX, Data Visualization & Story telling)

Financial Forecasting using MS Excel

Power BI is an interactive data visualization software developed by Microsoft with a primary focus on business intelligence. It is part of the Microsoft Power Platform. You can connect to and visualize any data using the unified, scalable platform for self-service and enterprise business intelligence (BI). It is easy to use and helps you gain deeper data insight.

Power Query & Data Modeling

It can reduce manual work like copying and pasting and thereby saves plenty of time. With just few clicks, it allows us to refresh and update data quickly. For many users, the biggest advantage of using Power Query is speed and efficiency. It offers us a selection of rich tools for transforming data and bring them together to analyze.

Topics covered: Types of Joins, Append & Merge Data, Split Columns, Unpivot, create a Calendar, GroupBy, Removing Errors and Duplicates, Data Format Types, Sorting, Custom and Calculated Columns, Normalization and Denormalization, Star Schema, Snow-Flake Schema, Fact & Dimension Tables, Business entities.



Learning outcomes

- To merge multiple Tables into One via appending technique.
- Different kinds of Joins in power query.
- To learn the data modeling concepts.
- Understand the various data types and how they impact reporting
- Explain the importance of data quality for data analytics project
- Get data from various sources with different connectivity types
- Apply best practices to profile, clean, transform, and load data

Power BI for Data & Business Analytics

Whether it's using interactive dashboards to consolidate key metrics or rich reports to connect datasets from workloads, Power BI is a key tool to engage with business data, pull it from a broad range of disparate sources, and enable smarter data-driven decisions.

1. It is easy to connect your data together
2. It has custom and open-sources visuals
3. Enable more advanced analytics with familiar Excel features
4. You can ask questions and get answers about your data
5. Power BI is a leader in Gartner's Magic Quadrant for Analytics and Business Intelligence Platforms

Learning outcomes

- Demonstrate a clear understanding of the value of accessible information.
- Demonstrate a clear understanding of the general metrics and data.
- Sources used for evaluating business performance.
- Acquire operational knowledge of the Power BI interface and its functions.
- Explain the roles in data analytics and types of analytics
- Demonstrate understanding on the steps taken by data scientists/analysts in analytics projects
- Understand the sensitivities in data collection process to ensure clarity and consistency for downstream analysis

DAX

Learning DAX as a Power BI user is much like being an Excel user and discovering how to use formulas. It opens up a whole new world, solves business problems, makes you a better data professional, and improves the data model.

Topics covered: Introduction to DAX, Calculated Columns, Relationships, Measures, Data Analysis Expressions (DAX) – Date & Time Functions, Filter Functions, Information Functions, Logical Functions, Table Manipulation Functions, Text Functions, Math & Statistical Functions, Time Intelligence Functions.

Learning outcomes

- To write DAX functions and understand expressions
- Use tools to help manage and create DAX
- Create complex expressions
- Learn methods to optimize expressions and more

Data Visualizations & Data Storytelling

The purpose of data analytics is often to change a viewpoint or decision based on the data. However, it is very difficult to make a change if the stakeholders don't understand the data. Data storytelling is building a story around a set of data to better understand and visualize the data. The primary benefits are to provide key insights, present new perspectives, interpret complex information, Inspire action.

Topics covered: 15 Dashboard Design Rules, CRAP Rule, MVC Rule, Visualizations best practices, Storytelling tips, how to select right chart, Dashboard design checklist, Interactive Features of POWER BI Desktop version includes Tooltip, Hyperlink & Bookmarks, Drill through, Visual, Page and Report level filters, Colors formatting, Conditional formatting, exploring app source for more visuals from marketplace.

Learning outcomes

- Design effective data visualizations to provide new insights or communicate information to the viewer.
- Find and select appropriate data that can be used to create a visualization that answers a particular question.
- Understand key elements for effective story telling with data
- Apply best practices for dashboard design
- Explain discoveries and insights with the help of visualizations (e.g., charts, tables, dashboards) to support conclusions and recommendations

Module C: Data Analytics using Python with Basics of AI (56 Hours)

Introduction to Python

Python is a powerful programming language widely embraced for its efficiency in quantitative analysis, data manipulation, and algorithmic trading. Module C: Data Analytics using Python with Basics of AI course is specifically tailored for professionals seeking mastery in Python programming and an in-depth exploration of core Artificial Intelligence concepts, encompassing machine learning and practical applications in real-world scenarios.

I. Python Programming Fundamentals

This section of the course covers the Python programming fundamentals. Every concept will be taught with hands on examples and practice case studies. You will learn Python data type, python data structure, functions, Module and basics of object-oriented programming.

Learning outcomes

- Proficient understanding of variables and data types in Python
- Mastering of Python operators and mathematical expressions
- Competence in utilizing essential Python data structures, such as lists and dictionaries
- Proficiency in handling user inputs effectively
- Adept usage of Python loops for iterative processes
- Sound comprehension of Python control flow statements
- Proficient creation and implementation of Python functions

II. Performing Data Analysis using Python

In this section, professionals will experience high-level data analysis techniques, testing hypotheses, and uncovering patterns to answer key questions using various tools and techniques.

Learning outcomes

- Proficient use of Pandas for Data Analytics, including data cleaning, wrangling, and merging.
- Practical implementation of Pandas features on live datasets from Kaggle: enhancing real-world application giving hands-on experience.
- High-level data analysis skills, encompassing hypothesis testing and pattern identification.
- Application of various analytical techniques to manipulate and summarize data through Exploratory Data Analysis.
- Proficient in creating basic data visualizations for enhanced understanding and insights.
- Exposure of Python's Matplotlib and Seaborn libraries for effective data visualization.
- Utilization of Seaborn's capabilities to explore and understand data, leveraging its integration with pandas data structures and dataset-oriented, declarative API.

III. Preparing Financial Reports with Python

This segment focuses on preparing comprehensive financial reports using Python, with an aim to empower professionals to become Python's analytical prowess to uncover patterns, trends, and opportunities with the data and equip them with essential skills to navigate and revolutionize financial reporting using the power of Python.

Learning outcomes

- Develop the capability to analyze and interpret financial data efficiently, using Python.
- Harness Python's analytical prowess to extract valuable insights from financial data, empowering professionals to uncover patterns, trends, and strategic opportunities.
- Equip professionals with essential Python skills to navigate and revolutionize financial reporting, ensuring efficient and impactful communication of financial information.

IV. Introduction to Artificial Intelligence, Machine Learning and Predictive Analysis

In this section, participants will explore the foundations of AI, machine learning principles, and master predictive analysis techniques, unlocking the potential to innovate and thrive in the dynamic landscape of data-driven decision-making.

Learning outcomes

- Develop expertise in training and testing regression models, including Simple Linear Regression and Multiple Linear Regression.
- Explore advanced regression techniques, including Lasso and Ridge Regression.
- Gain practical experience in training and testing binary and multiclass classification models using various algorithms like Logistics Regression, SVM, and Decision Trees.
- Implement essential techniques like label encoding, one-hot encoding, and feature transformation using Min-Max and Standard Scaler.
- Perform in-depth exploratory data analysis for time series data, identifying seasonality and trends.
- Master the training and testing of time series prediction models, including Auto Regression Models (ARIMA) and Seasonal Auto Regression Models (SARIMA and SARIMAX).
- Apply learned concepts to real-world scenarios, enhancing the ability to make informed predictions and decisions based on data-driven insights.

COURSE FEE (EXCLUSIVE OF TAX)

Modules	Members/Students	Non-Members
All Three modules	PKR 95,000	PKR 121,000

Payment Details & Registration Confirmation

To ensure a smooth and transparent registration process, participants are requested to carefully review the payment and confirmation guidelines outlined below.

Accepted Payment Modes

Payments can be made only through the following modes:

Inter-Bank Funds Transfer (IBFT) / Bank Deposit

Participants may make payments via IBFT or direct bank deposit using the details below:

Beneficiary Bank: Habib Bank Limited, Karachi, Pakistan
IBAN: PK85HABB0000567901315052
SWIFT Code: HABBPKKA

After completing the payment, participants must email the payment proof (transaction receipt or deposit slip) along with the following details:

- **Participant Name**
- **Course Name**
- **Membership Status**
- **Registration Number (R#), if applicable**
- **Phone Number**
- **Designation**
- **Organization**

Submit all details at: **daab@icap.org.pk**

Online Portal Registration

Participants may also register and make payments through the official online portal:

https://member.icap.org.pk/online-registration-for-seminar-workshop/

Important Notes

- Registrations will be confirmed only upon receipt of full payment and complete participant details.
- Cheque payments are not entertained. In case of a cheque deposit, the cheque must be deposited directly into the bank account mentioned above, and only the deposit slip should be shared via email at **daab@icap.org.pk.**
- Incomplete submissions or missing payment proof may result in delayed or unconfirmed registration.

Cohort Freezing & Transfer Policy

- A fee of **PKR 20,000** will be applicable for freezing or transferring a cohort.
- In the absence of this payment, the registration will be considered lapsed.
- Each registration may be transferred to a maximum of two (2) cohorts only.

Disclaimer

Participants are responsible for sharing valid payment proof along with complete and accurate details at daab@icap.org.pk immediately after making the payment. The institute will not be responsible for any delay, non-confirmation, or lapse in registration resulting from late submission, missing information, or incorrect details. Registration processing is strictly subject to timely receipt of complete documentation.

NOTE

1. The charges are exclusive of taxes.
2. Seat will be allocated on first-come-first-serve basis.
3. The above cost includes readable access to manual and first time Assessment Charges.
4. The training material (recordings,manual,class files) shall only be accessible for the duration of the training program
5. Separate fee for second attempt of assessment will be charged.
6. Late/Re-assessment will be conducted in the next available module.
7. Only one Certificate will be issued after passing the assessment and having the 75% attendance at the end of the program.
8. Module C is exclusively available for individuals who have successfully completed both Module A and Module B of the Data Analytics program by ICAP.
9. Registrations may be transferred or frozen for up to two subsequent cohorts only. Please note that this option must be used within the given timeframe, after which the registration will expire.

REGISTRATION WILL ONLY BE SUBJECT TO RECEIPT OF PAYMENT

Registrations are on first come first serve basis, subject to payment only, and registrations will be closed as soon as the class size is filled.

REGISTER NOW USING THE LINK

https://member.icap.org.pk/online-registration-for-seminar-workshop/

FOR FURTHER INQUIRY OR DETAILS:

DAAB Team:

UAN: 92- (021) 111-000-422 ext. 406
WhatsApp # 92-301-5039776
Email: daab@icap.org.pk