

# Rise Above And Go Beyond

## CBSE Informatics Practices Class XII (2024-25) - Edukers

### Revision of Important topics of Class XI

It has been quite evident that some students in class XII had not understood the concepts of class 11. Usually these are the students who have not taken coaching at all in class 11th, and few others who had not taken classes from us in 11th. As a result, they face difficulty in class 12th.

Though no direct questions are asked about class 11<sup>th</sup> syllabus, in 12th exams, still few topics in class do depend upon basics of class 11th. Therefore some essential portions of class 11th along with this course.

- **Basics of Python Programming**
- **Understanding Conditional Statements**
- **Understanding Iterations or Repetitions**
- **LISTS**
- **DICTIONARY**

### Syllabus CBSE Informatics Practices Class XII (2023-24) – Edukers

This course "CBSE Informatics Practices for Class XII" - Will cover in detail : Data Handling Using Pandas I, Data Visualization using Pandas and Matplotlib ||, Database Query using MySQL, Computer Networks, Societal Impacts in great detail. It is going to be 100% Skill Based. As a result of our teaching methodologies and more than two decades of teaching experience, we assure our students that they will score well above 90% in their final exams.

#### *Duration for CBSE IP Class XII*

It is a One-year program (More than 120 hours program). That confirms we will provide a support till the year end exam is not over.

Entire Program is 100% Skill based, not just Marks Oriented.

Assignment and Project is suppose to be a tool to ensure, student is able to put together what has been learned into a working solution. Hence at Edukers we make sure student does that on its own under the guidance of a teacher.

In the **"Problem Solving"** section you will be doing tons of practical problems to upskill and understand the related Concepts.

# Rise Above And Go Beyond

## IP Unit 1 - Data Handling Using Pandas I

This Unit will cover the following topics:

- Introduction to Python Libraries
  - Numpy (removed from Syllabus). Little introduction will be covered
  - Pandas
  - Matplotlib
- Data Structures in Pandas
  - Series
    - Different ways of creating Series in Pandas
      - Using:
        - Lists
        - ndarrays
        - Dictionary
        - Another Series
        - arange() function
      - Scalar Values
      - Mathematical Operations
      - Indexing
      - Slicing
      - Other important Functions like head() and tail() etc.
      - **Problem Solving**
    - DataFrames
      - Different ways of creating DataFrames in Pandas
        - Using nested Lists
        - Dictionary
        - List of Dictionary
        - Using Dictionary of Series
      - Different ways of displaying DataFrames
      - Indexing and Slicing
      - Operations on rows and columns
        - Adding, modifying and deleting rows and columns
      - Add
      - Select
      - Delete
      - Rename

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- Indexing
  - Using Labels
  - Boolean Indexing, etc.
- Importing and exporting data between CSV files and DataFrames.

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## IP Unit 2 - Data Visualization using Matplotlib and Pandas

Following topics will be covered in this unit:

### Handshake to Matplotlib

- Importing and using matplotlib.pyplot
- Introduction to Data Visualization
- Purpose of Plotting
- Preparing Data for Plotting, using:
  - Lists
  - ndArrays
  - Dictionary
  - Series, etc
- Plotting different types of graphs:
  - Line Graph
  - Bar Graph
  - Scattar Plots
  - Histograms
  - Pie Graphs, etc
- Customizing :
  - Axes Labels -xlabel, ylabel
  - Title of the graph
  - Legends
  - Grids
  - Colors
  - Markers, etc.
- **Problem Solving**

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Following topics will be covered in this unit:

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- **Revision of Database Concepts and topics covered in class XI**
- Different Types of Functions
  - Aggregate Functions
  - Math Functions
  - String or Text Functions
  - Date Functions
- Querying and manipulating Data using commands:
  - Insert
  - Update
  - Delete
  - Alter
  - Drop
  - Create
  - Where clause
  - Group by Clause
  - Having clause
  - Wild card characters:
    - Using Like Operator
    - '%' wild card
    - '\_' wild card
- Handling Multiple Tables
- Joins
  - Different types of Joins
  - equi-joins
  - natural joins, etc

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## IP Unit 4 - Computer Networks

You will learn following topics in this unit:

- Introduction to Networks
- Types of Networks
  - PAN
  - LAN
  - MAN

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- WAN
- Network Devices
  - Modem
  - Hub

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- switch
- Repeater
- Bridge
- Router
- Gateway
- Network Topologies
  - Bus
  - Star
  - Ring
  - Tree
  - Mesh,etc.
- Introduction to Internet
  - World Wide Web
  - Email
  - Chat
  - VOIP and related
- Introduction to Website
  - Difference between a website and webpage
  - Static vs Dynamic
  - Web page, web server and hosting of a website.
  - Introduction to Web Browsers:
    - Commonly used browsers
    - Browser settings
    - Add-ons, and
    - Plug-ins and cookies.etc.

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## IP Unit 5 - Societal Impacts

This unit covers in detail the following topics:

- Digital Footprints
- Etiquettes
  - Net Etiquettes
  - Communication Etiquettes, etc.
- Data Protection
- Intellectual Property Rights (IPR)



- Plagiarism
- Licensing
- Copyrights
- Free and Open Source Software (FOSS)
- Cyber Crime



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- Cyber Laws
- Hacking
- Phishing
- Cyber Bullying
- Indian IT Act
- E-Waste Management
- Technology and Health Concerns

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### ASSIGNMENTS

You will be provided with regular tests and assignments. As a result, you will be able to handle assignments and Tests conducted in your school.

### PROJECT

Project is putting together whatever you have learned so far. Hence project helps in building that confidence. Officially you are supposed to submit project in class 12, but we align our teaching methodology skill based right from the beginning, so that project becomes a cake walk for you.

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### Important Links:

- Facebook: <https://www.facebook.com/edukers>
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- YouTube: <https://youtube.com/edukers>
- Website: <https://www.edukers.in>

