CJC

Complete Java Classes

-by Kunal sir.

React

mongoDB

python

django

Hedera

Pandas

FULL STACK PYTHON SYLLABUS

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Complete Java Classes,

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Python Syllabus Full day

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CORE PYTHON

1] AN INTRODUCTION TO PYTHON:-

What is Python and history of Python?
Features of Python.
Installation and Working with Python.
Understanding Python variables.
Python basic Operators.
Python Identifiers, Keywords and Indentation.
Understanding python blocks.
Command line arguments.
Getting User Input.
Python Data Types.
What are variables?
Python Core objects and Functions.

2]PROGRAM FLOW CONTROL :-

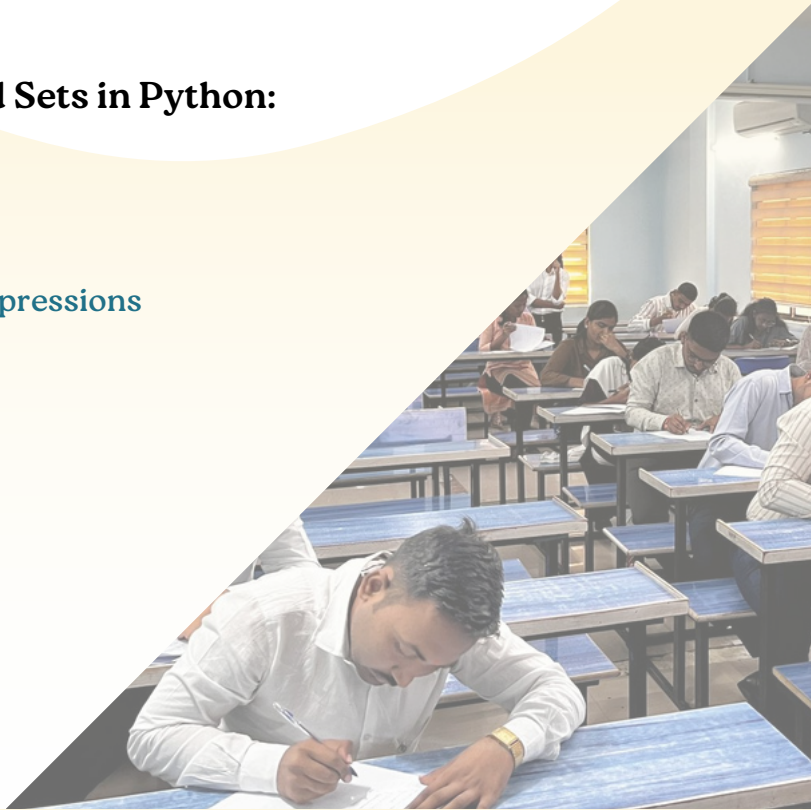
Conditional blocks using if, else and else if.
For loops in python.
For loop using ranges, string, list and dictionaries.
Use of while loops in python.
Loop manipulation using pass, continue, break and else.
Programming using Python conditional and loops block

3] Logic Building :-

Condition Based Problems.
Looping Related Problems.
Numeric Logical Problems.
String Logical Problems.
Sorting Problems.
Design Patterns.

4]List, Ranges, Dictionaries, Tuples and Sets in Python:

Introduction.
Lists in Python
Understanding Iterators
Generators ,Comprehensions and Lambda Expressions
Generators and Yield
Next and Ranges
Understanding and using Ranges
Python Dictionaries
Dictionary manipulation.
Ordered Sets with tuples
Sets
Python Sets Examples
Performance Assessment – 1



ADVANCE PYTHON

5]Object Oriented Programming in Python:-

OOPs Concepts.
Concept of class, object and instances.
Constructor, class attributes and destructors.
Accessing attributes, Built-In Class Attributes.
Inheritance
Polymorphism (overriding and overloading).
Achieving Abstraction
Encapsulation
Mini Project - 1
Performance Assessment – 2

6]Exception Handling in Python:-

Exception Handling Introduction.
Avoiding code break using exception handling.
Handling various exceptions using try....except...else.
Try-finally clause.
Try-except-finally with return keyword.
Argument of an Exception and create self-exception class.
Exception Classes Hierarchy
Raising an exceptions
Custom (User-Defined) Exceptions.

7] File Input and Output in Python:-

Reading and writing text files.
Reading config files in python.
Writing log files in python.
Understanding built-in functions.
Writing Binary Files Manually.
Using Pickle to Write Binary Files.
Manipulating file pointer using seek

8]Decorators, Iterators and Comprehensions

Iterables
Generators
Yielding from the generators
Inner Functions
Decorators
Comprehensions – List, Set & Dict.

9]Multithreading in Python Programs:

What is multithreading?
Single v/s Multithreaded Apps
Starting a New Thread.
Forking threads.
The Threading Module.
Class level & Object level Locks
Synchronizing Threads.
Performance Assessment – 3

10]Structured Query Language:-

MYSQL Introduction
Data Types
DDL, DML, TCL
Constraints
DISTINCT Clause
WHERE Clause
MYSQL Conditions (AND, OR, BOOLEAN, LIKE, IN)
MYSQL Functions (MIN, MAX, AVG, SUM, COUNT)
ORDER BY Clause
GROUP BY Clause
Relationships in SQL
Joins in SQL
Mini Project - 2

11]Python Database Connectivity (PDBC)

SQL Database connection using python.
Install the MySQL dB and other Packages
DML and DDL Operations with Databases.
Performing Transactions.
Handling Database Errors.
Disconnecting Database.
CRUD Operation Project using PDBC.
Mini Project - 3

12] ORM Tool

SQLAlchemy - Object Relational Mapper .
ORM Introduction.
SQLAlchemy Overview.
SQLAlchemy over PDBC.
Advantages of SQLAlchemy.
Classical Way of Mapping
Declarative Way of Mapping
DML and DDL Operations with Database.
Queries in SQLAlchemy.
Applying Filters
Mini Project - 4
PERFORMANCE ASSESSMENT – 4

13] FRONTEND HTML5:-

Introduction
Basic Formatting Tags
Grouping Using Div Span
Lists
Images
Hyperlink
Table
Iframe
Form
Headers
Miscellaneous
CSS2:-
Introduction
Syntax
Selectors
Color Background Cursor
Text Fonts
Lists Tables
Box Model
Display Positioning
Floats

14]JavaScript:-

Introduction
JS in HTML
HTML DOM (Document Object Model)
JS Console
JS Debugging
JS var & Arrays
JS Objects & Functions
JS dialog boxes
JS JSON
HTML Attributes

Advance JavaScript:-

Internal Working if JS
Scope Chain & Lexical Scoping in JavaScript
Function & Variable Hoisting in JavaScript
JS Object Constructors
JS Object Prototypes
JS Object Accessors
JS Data Types
Closure in JavaScript
localStorage and sessionStorage in JS
Synchronous v/s Asynchronous Programming in JS
Event Loop in JS

Mini Project - 5

PERFORMANCE ASSESSMENT – 5

15] Frontend Framework

React JS:-

React JS Introduction
Advantages of scripting languages
Features, Advantages & Limitations of React JS
Setting up Environment
Module Import - Export
ES6/ES7/ES8
JSX in Depth
Babel and webpack in React JS
Components in React JS
Props in React JS
Fragments in React JS
State in React JS
React Events
Extracting Components
React Conditional Rendering
React SAAS
Mounting, Updating & Unmounting
React Component API
Hooks in React JS
HOC in React JS
Context in React JS
Form in React JS
React Router
Mini Project - 6

PERFORMANCE ASSESSMENT – 6

16] BACKEND FRAMEWORK

DJANGO FRAMEWORK:-

Basic of Django Framework & its uses.
Installation and setting up Django.
Django with PyCharm CE.
Virtual Environments.
Templates in Django & Template Inheritance
Context in Django
Static Files in Django.
Syntax and URL.
Routing in Django.
Request/Response Architecture in Django.
Models
Relationships in Models
Handling various Databases in Django
Django-ORM
Queries of Django-ORM
Function-based Views.
Class-based Views.
Forms – HTML, Model & Django Forms.
Crispy Forms
CRUD Operations using Model Forms
Mini Project - 7
Form Validation
Custom user models.
Cookies & Session in Django.
User Authentication(Login, Logout, Sign Up)
Mini Project - 8
Performance Assessment – 7

7] API & API Framework

API(Application Programming Interfaces):-
Introduction
Serialization & Deserialization
Python JSON Module
API
Web API / Web Services
REST & RESTful API
Basics of SOAP API, REST API

17]Django REST Framework:-

Introduction & Installation
Requests
Response
API using api_view decorator and APIView class Serializer
ModelSerializer
CRUD using DRF
API using GenericApiView and mixins
ViewSets
Routers
Authentication and Permissions
Throttling
Pagination
Testing API using Postman
Mini Project - 9

18] Version Control System

Version Control System (GIT & GITHUB):-

What is Git and GitHub?
Account Setup
Installing SourceTree Git GUI
Git File Management
Branching
Pull Requests
Common Workflows
Git Branching
Inside a Local Repository
Mini Project - 10
Performance Assessment – 8

19] Live Project

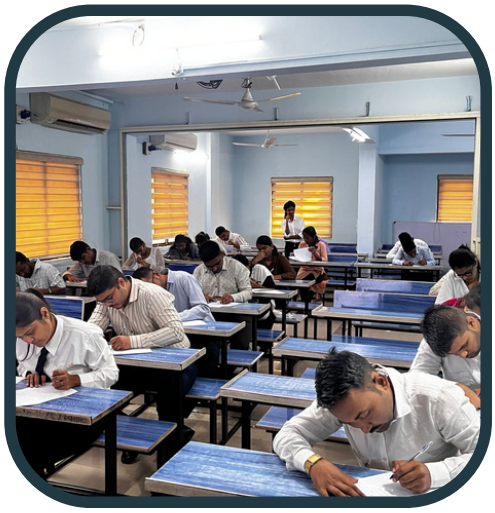
Live Project:-

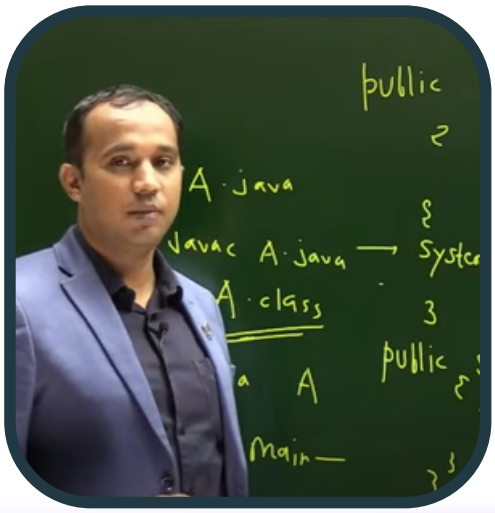
Handle various phases of SDLC.
Enhance your debugging skills.
Be technically strong in particular domain.
Flex your muscles on the cutting edge technology.
Get help from passion driven industry experts who has diverse experience.
Develop end-to-end project by yourself.

20] Interview Preparation

21] Mock Interviews

22] Resume Preparation





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