DEPARTMENT OF COMPUTER SCIENCE
Dyal Singh College, University of Delhi

(ACADEMIC SESSION, 2023-24)

Course: B.Sc (H) Computer Science (Part 1/ I Semester)
Paper Code and Name: Computer System Architecture   **(TH+PR)**

FACULTY

Name of Teacher: Dr. Shilpy Pahuja
Contact: 8860069677   **Email**: shilpypahuja.cs@dsc.du.ac.in

ASSESSMENT DETAILS
Total Marks for the course is 120, comprising following components
- **CA=0**
- **IA=30**

TEACHING PLAN

Week	Topics Covered/ Assignments/ Test/Presentations
1-2	Digital Logic Circuits
3-4	Digital Components, Register Transfer and Micro-operations
5-6	Data Representation
7-8	Basic Computer Organization and Design
9-10	Basic Computer Organization and Design, Assignment
11-12	Pipeline and Vector Processing, Central Processing Unit
13-14	Multicores, Multiprocessors, and Clusters, Test
15-16	Input Output Organization, Memory Organization

DEPARTMENT OF COMPUTER SCIENCE
Dyal Singh College, University of Delhi

(ACADEMIC SESSION, 2023-24)

Course: B.Sc(H) Computer Science (Part 2/ III Semester)
Paper Code and Name: Data Analysis and Visualization using Python
(TH+PR)

FACULTY

Name of Teacher: Dr. Shilpy Pahuja
Contact: 8860069677   **Email**: shilpypahuja.cs@dsc.du.ac.in

ASSESSMENT DETAILS
Total Marks for the course is 120, comprising following components
- **CA=0**
- **IA=30**

TEACHING PLAN

Week	Topics Covered/ Assignments/ Test/Presentations
1-2	Fundamentals of Data Analysis, Statistical foundations for Data Analysis, Types of data, Descriptive Statistics, Correlation and covariance, Linear Regression, Statistical Hypothesis Generation and Testing Python Libraries: NumPy, Pandas, Matplotlib
3-4	NumPy array: Creating NumPy arrays, various data types of NumPy arrays Indexing and slicing, swapping axes, transposing arrays, data processing using Numpy arrays
5-6	Data Structures in Pandas: Series, Data Frame, Index objects, loading data into Panda's data frame
7-8	Working with Data Frames: Arithmetics, Statistics, Binning, Indexing, Reindexing, Filtering, Handling missing data
9-10	Hierarchical indexing, Data wrangling: Data cleaning, transforming, merging and reshaping, Assignment
11-12	Using Matplotlib to plot data: figures, subplots, markings, color and line styles, labels and legends, Plotting functions in Pandas: Lines, bar, Scatter plots, histograms, stacked bars
13-14	Heatmap, Group by mechanics, Data aggregation, Test
15-16	General split-apply-combine, Pivot tables and cross tabulation