



SWARNANDHRA

COLLEGE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.D.T., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OF INFORMATION TECHNOLOGY

TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
23CD3L01	DATA SCIENCE LAB	III	DS-A	3 Periods	2025-2026	14-07-25
COURSE OBJECTIVE						
1	The main objective of the course is to inculcate the basic understanding of Data Science and its practical implementation using Python					
2	Work confidently with Python in Jupyter Notebook or similar lab environments.					
3	Utilize essential libraries such as NumPy, Pandas, Matplotlib, and Scikit-learn. Generate summary statistics and visualizations to identify trends and patterns.					
Experiment Number	Experiment					Contact Hours
1	Creating a NumPy Array a. Basic ndarray b. Array of zeros c. Random numbers in ndarray d. An array of your choice. e. Imatrix in NumPy f. Evenly spaced ndarray					2
2	The Shape and Reshaping of NumPy Array a. Dimensions of NumPy array b. Shape of NumPy array c. Size of NumPy array d. Reshaping a NumPy array e. Flattening a NumPy array f. Transpose of a NumPy array					2
3	Expanding and Squeezing a NumPy Array a. Expanding a NumPy array b. Squeezing a NumPy array c. Sorting in NumPy Arrays					3
4	Indexing and Slicing of NumPy Array a. Slicing 1-D NumPy arrays b. Slicing 2-D NumPy arrays c. Negative slicing of NumPy arrays					3
5	Stacking and Concatenating Numpy Arrays a. Stacking ndarrays b. Concatenating ndarrays c. Broadcasting in Numpy Arrays					3



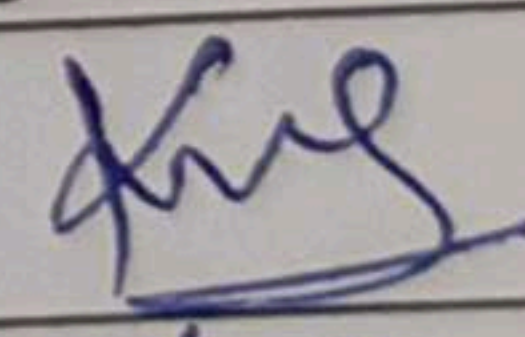
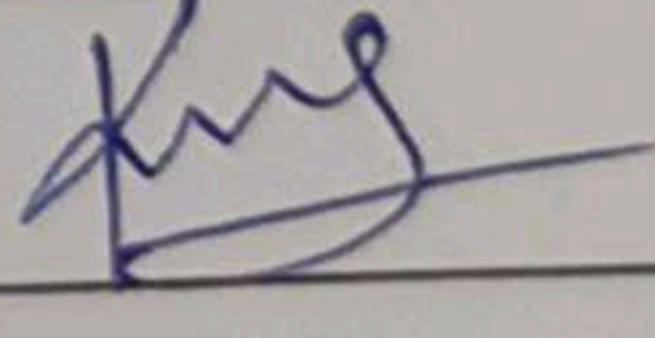
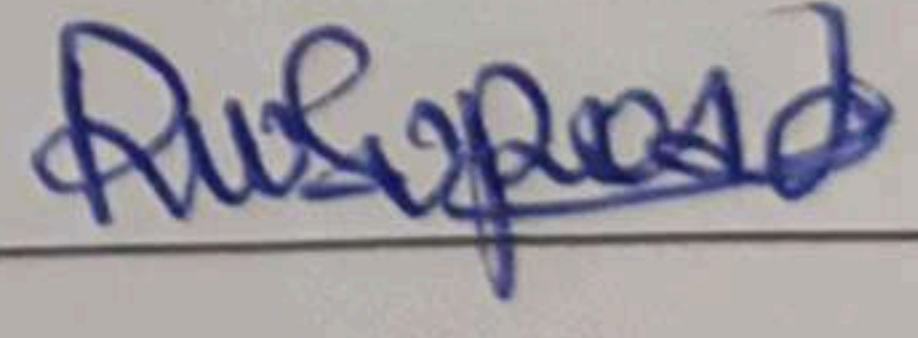
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6	Perform following operations using pandas a. Creating data frame b. concat () c. Setting conditions d. Adding a new column	3
7	Perform following operations using pandas a. Filling NaN with string b. Sorting based on column values c. groupby()	3
8	Read the following file formats using pandas a. Text files b. CSV files c. excel files d. JSON files	2
9	Read the following file formats a. Pickle files b. Image files using PIL c. Multiple files using Glob d. Importing data from database	3
11	Perform following preprocessing techniques on loan prediction dataset a. Feature Scaling b. Feature Standardization c. Label Encoding d. One Hot Encoding	3
12	Perform following visualizations using matplotlib a. Bar Graph b. Pie Chart c. Box Plot d. Histogram e. Line Chart and Subplots h. Scatter Plot	3
13	Getting started with NLTK, install NLTK using PIP	2
14	Python program to implement with Python Sci Kit-Learn & NLTK	2
15	Python program to implement with Python NLTK/Spacy/Py NLPI	3
CUMULATIVE PROPOSED PERIODS		40

	Name	Signature with Date
i. Faculty	Mr. K V V Nagendra babu	
ii. Module Coordinator	Mr. K V V Nagendra babu	
iii. Programme Coordinator	Dr. R V V S V Prasad	


Principal