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B.E. 5th SEM (ATKT) EXAMINATION APRIL 2025

Subject Name :Data Science using Python Programming
Date: 08/04/2025(Tuesday) Time: 12.30 pm to 03.30 pm

Subject Code:CS501-N
Total marks: 70

Instructions:
1. Answer each section in separate Answer sheet.
2. All questions are compulsory.
3. Indicate clearly, the options you attempt along with its respective question number.
4. Use the last page of main supplementary for rough work.

Section-I

Q.1 (A)	Define Data Science and discuss Application of Data Science.	(5)
(B)	Explain Object Oriented Programming Concept in python.	(5)
(C)	Write a python program to find out Fibonacci series of any given number using function. (n=5).	(5)

OR

(C)	Write a python program to find the minimum no. from three numbers.	(5)
Q.2 (A)	List out and explain different libraries of data science.	(5)
(B)	Write a Python program to load the iris data from a given csv file into a Data Frame and print the shape of the data, type of the data and first 3 rows.	(5)

OR

Q.2 (A)	Explain data indexing and selections in pandas.	(5)
(B)	Describe Line and Scatter plot in matplotlib.	(5)

Q.3 (A)	What is Machine Learning? Describe Machine Learning Applications.	(5)
(B)	Differentiate between numpy and pandas.	(5)

OR

Q.3 (A)	Explain Scikit-Learn with Machine Learning with example.	(5)
(B)	Explain matplotlib python data science library with example.	(5)

Section-II

Q.4 (A) Define Neural Network with its types, application and advantages. (5)

(B) Explain Lambda, Map and Filtering with its example. (5)

(C) Discuss Natural Language Processing with Scikit Learn with example. (5)

OR

(C) Differentiate between Supervised, Unsupervised and Reinforcement Learning. (5)

Q.5 (A) What is Natural Language Processing? Explain its components. (5)

(B) Explain Hyper parameters and Modal validation in Machine learning. (5)

OR

Q.5 (A) Explain with example how Text Classification, Text Wrapping, Text Summarization is performed in Natural Language Processing. (5)

(B) Explain basic building block of ANN. (5)

Q.6 (A) What is CGI Programming in Python? Explain it with an example. (5)

(B) Explain Basic Text Processing function with an example. (5)

OR

Q.6 (A) Discuss basic components of Neural Network. (5)

(B) List out and explain basic libraries used in NLP. (5)