Exam Number: _____

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B.E. 5th (REG/ATKT) EXAMINATION April- 2024

Subject Name : Data Science using Python Programming   Subject Code: CS501-N
Date: 05/04/2024   Time: 12.00 PM to 3.00 PM   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) List and Explain different programming styles in python   (5)

     (B) Explain Exploratory Data Analysis (EDA).   (5)

     (C) Write a program to check whether the given number is prime or not.   (5)

OR

     (C) Write a program to print Fibonacci series up to number given by user.   (5)

Q.2 (A) Differentiate rand and randn function in Numpy.   (5)

     (B) Explain DataFrame in Pandas with example.   (5)

OR

Q.2 (A) Explain Groupby function in pandas with example.   (5)
     (B) Explain String Slicing in python with Example.   (5)

Q.3 (A) Differentiate join and merge functions in pandas   (5)
     (B) List and Explain different graphs in MatPlotLib.   (5)

OR

Q.3 (A) Explain Labels, Annotation and Legends in MatPlotLib   (5)

     (B) Explain Web Scrapping with Example using Beautiful Soup library   (5)

Section-II

Q.4 (A) Differentiate Supervised and Unsupervised learning. (5)

    (B) Explain how to create data science pipeline. (5)

    (C) Explain Regression with example (5)

<div align="center">OR</div>

    (C) Explain Classification with example. (5)

Q.5 (A) For what purpose sampling is used. Demonstrate random sampling with example. (5)

    (B) Compare the numpy and pandas on the basis of their characteristics and usage (5)

<div align="center">OR</div>

Q.5 (A) Explain any three functions from Scikit learn. (5)

    (B) Explain Data manipulation and Data visualization in detail (5)

Q.6 (A) Explain stemming and stop words removal operation in python (5)

    (B) Write a code to draw pie chart using python's library. (5)

<div align="center">OR</div>

Q.6 (A) List various types of graph/chart available in the pyplot of matplotlib library for data visualization. Explain any two of them in brief. (5)

    (B) What do you mean by time series data? How can we plot it? Explain it with example to plot trend over time. (5)

Q.6 (A) what is Data Science? Explain any four real-time application of Data Science.

Verified