3/12/2024 CSE-AIML SEM-VI C SCHEME DAAV QP CODE: 10064347

Time: 3 Hours **(Total Marks: 80)**

Note:-1. Question No. one is compulsory.
2. Answer any three out of the remaining questions.
3. Assume suitable data if required.

Q1 **Attempt the following: (Any 4)** **[20]**

[A] What are the common tools used for data preparation phase and model planning phase of data analytics life cycle. **[05]**

[B] Differentiate Linear Regression and Logistic Regression. **[05]**

[C] Explain different data types in R with examples. **[05]**

[D] Explain in brief steps of text analysis. **[05]**

[E] What is time series analysis? Explain its components. **[05]**

[F] What is Pandas? Explain features of Pandas. **[05]**

Q2 **Attempt the following:** **[20]**

[A] List and explain different phases in data analytics lifecycle. **[10]**

[B] Explain Autoregressive (AR), Moving Average (MA), Autoregressive Moving Average (ARMA) and Autoregressive Integrated Moving Average (ARIMA) Models in detail. **[10]**

Q3 **Attempt the following:** **[20]**

[A] Calculating the regression equation of x on y and y on x from the following data and estimate x when y = 20. Also determine the value of correlation coefficient. **[10]**

x	10	12	13	17	18
y	5	6	7	9	13

[B] Explain seven practice areas of text analytics. **[10]**

Q4 **Attempt the following:** **[20]**

[A] Explain with justification that which analysis model is used to predict / forecast monthly average temperature in a specific region over the next year considering historical climate data. **[10]**

[B] Explain following data visualization libraries in Python: Box plot, Violin plot, Pie chart, Histogram, Bar chart **[10]**

Q5 **Attempt the following:** **[20]**

[A] What is a text summarizer? How does it work? Explain the difference between extractive summarization and abstractive summarization. **[10]**

[B] How is data exploration different from presentation? Explain with suitable examples? **[10]**

Q6 **Write a short note on:** **[20]**

[A] Box-Jenkins Methodology **[05]**

[B] Key roles in data analytics life cycle **[05]**

[C] Stepwise regression **[05]**

[D] Generalized Linear model **[05]**
