BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)

Computer Science & Business Systems

B. Tech. Sem - III :SUMMER : 2023

SUBJECT : COMPUTATIONAL STATISTICS

Day : Monday | Time : 02:30 PM-05:30 PM

Date : 15-05-2023 | S-24145-2023 | Max. Marks : 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data **WHEREVER** necessary.
4) Draw neat labeled diagrams **WHEREVER** necessary.

Q.1 Explain in detail the process of data wrangling. Also explain the significance of data wrangling in data analysis. **(10)**

OR

Q.1 Explain in detail features of Python Programming Language. **(10)**

Q.2 Explain the significance of time series in data analysis. Also demonstrate use of important time series functions. **(10)**

OR

Q.2 Explain the significance of pivot table and crosstab functions. Demonstrate how to use them in Python. **(10)**

Q.3 Derive the formula for Multivariate Normal Distribution formula where variables are dependent on each other. **(10)**

OR

Q.3 Explain in detail various assumptions of Multiple Linear Regression Model with neat diagrams for each. **(10)**

Q.4 Design a classifier model using Fisher Linear Discriminant Function. **(10)**

OR

Q.4 Discuss the assumptions of Multivariate Regression Model. Also discuss various distance measures used in Multivariate Regression Model. **(10)**

Q.5 Design the classic equation of Principal Component Analysis $|S - \lambda I| = 0$. **(10)**

OR

Q.5 Discuss in detail three methods to decide how many factors are to be retained while performing Factor Analysis. Also explain the significance and types of factor rotations. **(10)**

Q.6 Explain clustering as a Process Model. Discuss different distance measures to find proximity in clusters. **(10)**

OR

Q.6 Discuss different types of clustering methods in detail. Also explain the use of dendrogram with an example. **(10)**

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BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)

Computer Science & Business Systems

B. Tech. Sem - III :SUMMER : 2023

SUBJECT : ITC-I: SOFTWARE ENGINEERING

Day : Tuesday | Time : 02:30 PM-05:30 PM

Date : 16-05-2023 | S-24146-2023 | Max. Marks : 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Use of non-programmable calculator is **allowed**.
4) Assume suitable data **WHEREVER** necessary.
5) Draw neat diagram **WHEREVER** necessary.

Q.1 Draw and Explain Software Development life cycle with examle. **(10)**

OR

Q.1 What is Software Engineering? Explain Software project failures in detail. **(10)**

Q.2 Draw and explain Software Project Planning and feasibility study. **(10)**

OR

Q.2 Describe Software Cost Estimation and Software Project Planning. **(10)**

Q.3 Draw and explain capability maturity models in detail. **(10)**

OR

Q.3 What is software quality reliability? Explain in detail with example. **(10)**

Q.4 Explain in detail UML with ATM machine system using use Class diagram. **(10)**

OR

Q.4 Discuss decision tables, event tables and state transition tables in detail. **(10)**

Q.5 Write an encapsulation, information hiding and abstract data types. **(10)**

OR

Q.5 Explain class responsibility collaborator in detail. **(10)**

Q.6 Explain Basic testing concepts and its types in detail. **(10)**

OR

Q.6 Write differentiate between validation and verification concepts with example. **(10)**

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