

RAN-2611000906011001

B.C.A. (NCF-NEP) (Sem. VI) Examination February - 2026
Data Analytics using Python (TH)(NEW) (Major - 1 : Paper - 602)

[Total Marks: 25

સૂચના : / Instructions (1) ઉપરોક્ત દશવિધ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book	Seat No.: Student's Signature
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Q.1. [A] Answer the following (Any 4)

[04]

1. **The sutra “Udharan” is related to:**

A) Proportionate calculation	B) Extraction method
C) Remainder theorem	D) Addition and subtraction
2. **The sutra “Yavadunam” means:**

A) By the completion or non-completion	B) The remainder
C) Whatever is the deficiency	D) The parts and the whole
3. **The sutra “Vyastisamanstih” refers to:**

A) The product of the sum	B) By motion or shift
C) The parts and the whole	D) Proportionate method
4. **The sutra “Sesanyan” is used for finding:**

A) The sum	B) The difference
C) The product	D) The remainder
5. **The sutra “Gunitasamuchyah” means:**

A) The parts and the whole	B) The product of the sum
C) By transposition	D) Whatever is the deficiency
6. **The sutra “Chalana-Kalana” refers to:**

A) Extraction	B) Motion or applying a shift
C) Completion method	D) Cancellation method

[B] Answer following in one /two lines (Short Answers): (Any Four)

[04]

1. What is Exploratory Data Analysis (EDA)? Why is it important in data analysis?
2. Explain the concept of covariance and correlation in regression analysis.
3. What is the machine learning life cycle? Mention its main stages.
4. Define Supervised Learning with one real-world application.
5. Define Unsupervised Learning with one real-world application.

Q.2. Answer Following:

[A] Define Regression and explain its characteristics. Also describe the concepts of dependent and independent variables with suitable examples.

[05]

[B] Explain Univariate Analysis in detail. Discuss various statistical measures and graphical techniques used for analyzing a single variable with suitable examples.

[04]

OR

[B] Explain the concept of spread of data. Describe Normal Distribution and Skewed Distribution with suitable graphs and real-life examples.

Q.3. Write short-note on any Two :

[08]

- 1) Difference between Classification and Regression in Supervised Learning.
 - 2) Role of Training Data, Test Data, and Validation Data in building a machine learning model.
 - 3) Loss Functions and explain their importance in model evaluation.
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