



SE – 261

**III Semester B.C.A. (AI and ML) Examination, Jan./Feb. 2026
(SEP 2024-25)**

**COMPUTER APPLICATION
24BCAE1 : Feature Engineering**

Time : 1½ Hours

Max. Marks : 40

Instruction : Answer all the Sections.

SECTION – A

1. Answer **any 5** questions. **Each** question carries **2** marks. **(2×5=10)**

- 1) Define discrete and continuous data.
- 2) What is feature scaling and why is it necessary ?
- 3) How do you handle missing data in a dataset ?
- 4) What is binning in feature engineering ?
- 5) Mention any two-feature selection technique.
- 6) What is principal component analysis used for ?

SECTION – B

2. Answer **any 4** questions. **Each** question carries **5** marks. **(5×4=20)**

- 7) Explain the different types of data with examples.
- 8) What is the role of data visualization in exploratory data analysis with suitable example ?
- 9) Write a short note on a) Normalization b) Standardization.
- 10) Describe how to choose between feature extraction and selection for a machine learning task.
- 11) Explain the steps in feature selection.
- 12) Write down the differences between one hot encoding and label encoding.

SECTION – C

3. Answer **any 1** question. **Each** question carries **10** marks. **(10×1=10)**

- 13) Explain in detail the data pre-processing steps with appropriate methods.
 - 14) Explain various feature selection techniques; Filter, Wrapper and Hybrid methods.
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