

Seat No. **MAR_APR 2025 SUMMER EXAMINATION****11731 Bachelor of Technology (NEP-2.0)****Sub. Name: Feature Engineering****Sub. Code: 94355****Day and Date: MAY ,15-05-2025****Total Marks: 70****Time: 02:30 PM To 05:00 PM****Instructions:** 1. Assume suitable data wherever necessary and mention it boldly
2. Figures to the right indicate full marks**Special Inst.:** 1. Question no. 6 is compulsory
2. Solve any four questions from Q. No. 1 to Q. No.5

- Q1)** Solve the following questions. [15]
- a. What is Feature Engineering? Explain the types of features with examples. [8]
- b. Explain the steps to evaluate a feature engineering procedure. [7]
- Q2)** Solve the following questions. [15]
- a. Illustrate the concepts of feature vector, feature space, and feature extraction with a suitable example. [8]
- b. What is skewness in data? Explain its type. How to transform a skewed distribution into a normal distribution? Discuss with example. [7]
- Q3)** Solve the following questions. [15]
- a. Illustrate the concept of Bag-of-n-Grams. Explain how to calculate n-grams with a suitable example. [8]
- b. What is text representation? List out text preprocessing techniques. Explain the difference between Stemming and Lemmatization with an example [7]
- Q4)** Solve the following questions. [15]
- a. What is feature selection? Explain the goals of feature selection with examples. [8]
- b. Explain how the irrelevant features impact on machine learning model performance. [7]
- Q5)** Solve the following questions. [15]
- a. What is the linear projection in machine learning? List out the methods for it. Explain one of them. [8]

- b.** How feature transformations increase the performance of machine learning algorithms? [7]

Q6) Write a short note on: (any 2) [10]

- a.** TF-IDF [5]
- b.** Filter Methods [5]
- c.** Difference between parametric and non-parametric models [5]

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (1154) B.Tech. CBCS (94355) Feature Engineering Part 3 SEM 6