Seat No.

Total No. of Pages : 2

MAR_APR 2026 SUMMER EXAMINATION

1154 B.Tech. CBCS

Sub. Name: Feature Engineering

Sub. Code: 94355

Day and Date: Monday ,25-05-2026 **Total Marks: 70**

Time: 10:30 AM To 01:00 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. Explain the importance of feature engineering in the machine learning process with an example. **[8]**

b. What do you mean by features? Explain why feature engineering matters with an example. **[7]**

Q2) Solve the following questions. **[15]**

a. Explain the quantization or Binning technique with its type and example. **[8]**

b. Explain briefly Bag of Words model for text feature representation with an example. **[7]**

Q3) Solve the following questions. **[15]**

a. Given a document-term matrix with the following counts : Calculate the TF- IDF score of “Term 3” in “Document 3”. **[8]**

	Document 1	Document 2	Document 3
Term 1	10	5	0
Term 2	2	0	8
Term 3	1	3	6

b. What is text representation? Explain text preprocessing techniques with example. **[7]**

Q4) Solve the following questions. **[15]**

a. How feature transformations increase the performance of machine learning algorithms? Explain the feature transformation methods. **[8]**

b. Explain the difference between parametric and non-parametric model with an **[7]**

26782

example.

Q5) Solve the following questions. **[15]**

a. Explain the concept of "curse of dimensionality". Discuss how to resolve this problem using a feature engineering procedure. **[8]**

b. Explain the one-hot encoding with an example. **[7]**

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

a. Levels of data with example **[5]**

b. Difference between Stemming and Lemmatization with an example **[5]**

c. Goals of feature selection **[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

26758 2