



RAN-2511000903011008 - D

B.C.A. (Sem. - III) Examination December - 2025

303-05 : Fundamentals of Machine Learning (PR) (A.I. And Data Analytics)

Time: 2 Hours]

[Total Marks: 25

સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book.

Seat No.:

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Student's Signature

Q. 1. Solve following problem: (10)

Create a CSV file named movies.csv with the following attributes:
(Movie_ID, Title, Genre, Rating, BoxOfficeCollection, Year).
Store at least 20 records. Perform EDA:

1. Load dataset.
2. Display top 5 movies.
3. Univariate Analysis on Rating.
4. Bivariate Analysis between Year and BoxOfficeCollection.
5. Multivariate correlation matrix.
6. Detect and handle missing values (if any).

Q. 2. A mobile store wants to predict smartphone price based on Storage (GB). (10)

Dataset Dictionary:

```
data = {
  "Storage": [32, 32, 64, 64, 128, 128, 128, 256, 256, 256, 512, 512, 512, 512, 512],
  "Price": [10, 12, 15, 18, 22, 25, 30, 35, 38, 42, 50, 55, 60, 65, 70]
}
```

Solve Following:

- 1) Use Storage as independent variable.
- 2) Build and train Linear Regression model.
- 3) Predict smartphone prices.
- 4) Visualize regression line on a scatter plot.
- 5) Evaluate model using R^2 Score.

Q. 3. Viva-voce (05)
