



RAN-2011000703010002

M.Sc.(ICT) (Sem.-III) Examination November - 2025 Introduction to Python & Data Science (Paper-301)

Time: 3 Hours]

[Total Marks: 70

સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) Draw the Figure and give example wherever necessary.

Seat No.:

--	--	--	--	--	--

Student's Signature

- Q.1. Answer Following Questions : 14**
1. Write a note on Computer Vision. 06
 2. Write a note on Big Data. 04
 3. Explain the life cycle of Data Science. 04
- OR**
3. Explain confusion matrix.
- Q.2. Answer Following Questions : 14**
1. Explain descriptive statistics in detail with example. 05
 2. Explain normal distribution in detail. 05
 3. What is normalization? Explain Z-Score with an example. 04
- OR**
3. What is variability in dataset? What are the means to measure it ?
- Q.3. Answer Following Questions : 14**
1. Explain any two sequence types in python in detail. 05
 2. How do you perform single,multilevel and multiple inheritance in python? Explain with example. 05
 3. Explain Dictionary and Tuple with an example. 04
- OR**
3. State the library used for visualization and also write a code snippet for displaying a scatter plot in python.
- Q.4. Answer Following Questions : 14**
1. Explain what is range() function and how it is used in lists? How are lists an updated ? Give example. 05
 2. How can we perform read operations from different file formats in Python such as a text file, an Excel file, and a CSV file? Explain each case with suitable examples. 04
 3. Write a note on SciPy.
- OR**
3. Write a note on Stochastic Gradient Descent.

Q.5. Answer Following Questions: (Any Two)

14

1. What do you mean by dimension reduction? Explain any one dimension reduction algorithm.
 2. What is Supervised Learning and Unsupervised learning? Give an example.
 3. Explain Cross-Validation, TPR, FPR, precision and recall.
-