

(i) Printed Pages :3

Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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**Bachelor of Computer Applications (FYUP) 2nd Semester
(2056)**

**INTRODUCTION TO ARTIFICIAL INTELLIGENCE AND
DATA SCIENCE**

Paper : BCA-DSC-2 (Maj)-202

Time Allowed : Three Hours] [Maximum Marks : 45

Note :— Attempt **Five** Questions in all, selecting **one** question from each of the Units I to IV. Unit V is Compulsory.

UNIT-I

1. (a) Define Artificial Intelligence. Explain the main goals and characteristics of AI with suitable examples. 5
- (b) Explain the ethical issues associated with Artificial Intelligence. 4
2. (a) Explain the history and evolution of Artificial Intelligence from its early development to modern AI technologies. 4
- (b) Explain Natural Language Processing (NLP). Discuss its working and major applications. 5

UNIT-II

3. (a) Define Data Science. Explain its need in the modern world with suitable examples. 4

- (b) Explain Data Reduction techniques and their importance in handling large datasets. 5
4. (a) Explain the different types of data used in Data Science. 5
- (b) What is Data Pre-Processing? Explain its importance in Data Science. 4

UNIT-III

5. (a) What is data sorting in spreadsheets? Explain different types of sorting. 4
- (b) What are database ranges in spreadsheets? Explain how ranges can be defined and grouped. 5
6. (a) Discuss various Mathematical functions in spreadsheet software with suitable examples. 5
- (b) What is 'Text to Columns'? Explain its purpose and working with example. 4

UNIT-IV

7. (a) Explain the concept of Data Visualization in spreadsheet software. Discuss its importance. 5
- (b) Discuss the HLOOKUP function and explain how it differs from VLOOKUP. 4
8. What are charts in spreadsheet software? Describe different types of charts used in spreadsheet software with suitable examples. 9

UNIT-V (Compulsory)

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|--------|-----------------------------------|---|
| 9. (a) | Write any two applications of AI. | 2 |
| (b) | What is an AI agent? | 2 |
| (c) | Define data discretization. | 2 |
| (d) | What is data validation? | 2 |
| (e) | What is an embedded chart? | 1 |