K25U 0976

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (C.B.C.S.S. – OBE-Regular)
Examination, April 2025
(2023 Admissions)
CORE COURSE IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
4B06 AIML : Python for Machine Learning

Time : 3 Hours Max. Marks : 40

PART – A
(Short Answer)

Answer **all** questions. **Each** question carries **1** mark. (6×1=6)

1. What is the purpose of comments in Python ?
2. Define the difference between a tuple and a list.
3. What is the use of the enumerate () function in Python ?
4. What are default function arguments ?
5. Name any two built-in modules in Python and their uses.
6. How do you create a one-dimensional NumPy array ?

PART – B
(Short Essay)

Answer **any six** questions. **Each** question carries **2** marks. (6×2=12)

7. Explain the role of indentation in Python.
8. Differentiate between while and for loops with examples.
9. What is recursion in Python ? Give an example.
10. How does the open() function work in file handling ?
11. Explain the concept of exception handling in Python.

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12. What is NumPy's arrange () function ? Provide an example.

13. How do you sort a DataFrame in Pandas ? Provide an example.

14. Explain the role of the head() and tail() methods in Pandas.

PART – C
(Essay)

Answer **any four** questions. **Each** question carries 3 marks. **(4×3=12)**

15. Discuss the different types of numeric data types in Python.

16. Explain the use of break, continue and pass statements with examples.

17. How are functions defined and called in Python ? Provide examples.

18. Discuss file handling operations such as reading, writing and appending with examples.

19. How do you create and manipulate a 2D NumPy array ?

20. Explain different indexing techniques in Pandas with examples.

PART – D
(Long Essay)

Answer **any two** questions. **Each** question carries 5 marks. **(2×5=10)**

21. Explain the different types of operators in Python with examples.

22. Discuss the concept of modules in Python and explain the use of built-in modules like os and sys.

23. What are the key features of Pandas DataFrames ? Explain with examples.

24. Compare and contrast different NumPy array manipulation techniques, such as reshaping, transposing and splitting with examples.