



M.Sc. II Semester Degree Examination, Sept./Oct. - 2024

COMPUTER SCIENCE

Python Programming

(NEP)

Time : 3 Hours

Maximum Marks : 70

Note : Answer **any five** of the following questions with Question No. 1 compulsory, each question carries **equal** marks.

1. (a) List out and explain the features of Python Programming. **7**
(b) Why are comments important in Python code ? How do you write single-line and multi-line comments ? Provide examples. **7**
2. (a) Discuss at least five common list methods in Python. Provide examples demonstrating the usage of each method. **7**
(b) Discuss the concept of packing and unpacking in tuples. Provide examples to illustrate both concepts. **7**
3. (a) Explain the use of try, except, else, and finally blocks in exception handling. **7**
(b) Discuss the role of scikit-learn in machine learning. What are some common types of machine learning algorithms provided by scikit-learn ? **7**
4. (a) How can a class method be called from another method within the same class ? Provide a code example to demonstrate this concept. **7**
(b) Describe the different types of inheritance in Python(single, multiple, multilevel, hierarchical and hybrid). Provide examples for at least two types. **7**
5. (a) How can you create and start multiple threads in Python ? Provide an example where two threads perform different tasks concurrently. **7**
(b) Discuss the different types of plots available in matplotlib. Provide examples for at least three types of plots. **7**
6. (a) What is dictionary comprehension ? How can it be used to create dictionaries ? **7**
(b) Write a Python program using NumPy to perform matrix multiplication. **7**



7. (a) Explain the concept of a class in Python. How does it serve as a blueprint for creating objects ? Provide an example to define a simple class and create an object from it. **7**
- (b) Discuss how to handle events in tkinter. Provide an example of a button click event that changes the text of a label. **7**
8. Write short notes on the following : **5+5+4**
- (a) Tuples
- (b) NUMPY
- (c) Multithreading

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