



Seventh Semester B.E. Degree Examination, June/July 2025

Python Application Programming

Time: 3-hrs

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. List the salient features of python and explain any five. (06 Marks)
- b. What is a program? Explain the building blocks of a program. (06 Marks)
- c. Write python program :
 - (i) To find factorial of a number.
 - (ii) To check whether a given year is leap year or not (Input to be read from the user). (08 Marks)

OR

- 2 a. Explain alternative and chained conditional statements with suitable programming example. (08 Marks)
- b. Explain how python handles exceptions with a suitable programming example. (06 Marks)
- c. Explain how functions are defined in python. Write a single user defined function named "Operation" that returns the addition, subtraction, multiplication and division value of two numbers accepted from the user. Print the values separately on the console. (06 Marks)

Module-2

- 3 a. Explain the working of while loop and for loop with syntax and flowchart. Write a python program to generate Fibonacci series upto the given limit by defining FIBONACCI (n) function. (10 Marks)
- b. Demonstrate the working of break and continue statements in looping constructs with snippet code. (10 Marks)

OR

- 4 a. Explain any four string manipulation methods supported by python with snippet code. (06 Marks)
- b. What are String Slices? Explain the string slicing operator in Python with examples. (06 Marks)
- c. Write a python program to accept a filename from the user :
 - (i) Display the first N-lines of the file.
 - (ii) Find the frequency of occurrence of the word accepted from the user in the file. (08 Marks)

Module-3

- 5 a. What are Lists? Lists are mutable. Justify the statement with example. (06 Marks)
- b. Briefly explain any 5 list methods with snippet code. (10 Marks)
- c. What is a Dictionary? Write a Python program to count the occurrences of characters in a string and print the count. (04 Marks)

OR

- 6 a. For the following questions, let's say spam contains the list ['a', 'b', 'c', 'd', [3, 4]].
- * What does spam [int('3'*2) / 11] evaluate to?
 - * What does spam [-2] evaluate to?
 - * What does spam [4][1] evaluate to?
 - * What does spam.remove ['e'] evaluate to?
- Justify your answer. (06 Marks)
- b. Consider a file "exam.txt". Write a python program to read the file and look for lines of the form.
- X-DSPAM – Confidence : 0.8495
X-DSPAM – Probability: 0.458
- Extract the number from each of the lines using regular expression. Compute the average of those numbers and print. (08 Marks)
- c. Explain with suitable snippet code the methods keys (), values (), get () and items () with respect to dictionary. (06 Marks)

Module-4

- 7 a. Explain how class is created and instantiated in python? Write a python program to express instances as return values by defining a class RECTANGLE with attributes width, height and corner point and functions to find center of the rectangle, area and perimeter of a rectangle. (10 Marks)
- b. Explain pure functions and modifiers with programming example. (10 Marks)

OR

- 8 a. Explain __init__ and __str__ method with programming example. (10 Marks)
- b. Differentiate class variables and instance variables with programming example. (05 Marks)
- c. Explain copy.copy() and copy.deepcopy() with suitable examples. (05 Marks)

Module-5

- 9 a. Define Socket. Explain relationship between user program and socket with a neat diagram. (06 Marks)
- b. Explain how do you pass HTML using beautiful soup? Write a program to illustrate the same. (08 Marks)
- c. How do you extract data from XML when XML document is containing multiple nodes? Illustrate the same with a program. (06 Marks)

OR

- 10 a. What is SQL? Explain the following SQL statements:
- (i) CREATE TABLE
 - (ii) INSERT
 - (iii) SELECT
 - (iv) DELETE
 - (v) UPDATE
- (12 Marks)
- b. Write a python program to extract location information using Google geocoding API. (08 Marks)
