Roll No. ....

B.C.A. 302

Pyth. Prog.

302
B.C.A. Part-III EXAMINATION, 2025
(Faculty of Science)
(Three-Year Scheme of 10+2+3 Pattern)
Python Programming

Time Allowed : Three Hours
समय : तीन घंटे

Maximum Marks: 100
अधिकतम अंक : 100

Answers of all the questions (short answer as well as descriptive) are to be given in main answer-book only. Answer of short answer type questions must be given in sequential order. Similarly all the parts of question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Write your roll number on question paper before start writing answers of the questions.

Question paper consists of **three** parts.

All three parts are **compulsory.**

Part-I : (Very short answer) consists of 10 questions of 2 marks each, Maximum limit for each question is up to 40 words.

Part-II : (Short answer) consists of 5 questions of 4 marks each, Maximum limit for each question is up to 80 words.

Part-III : (Long answer) consists of 5 questions of 12 marks each with one question from each unit with internal choice.

PART-I

1. Give very short answer to the following-

    (a) What are the basic style guidelines in Python programming?

    (b) Define sequences in Python. Give an example.

    (c) What is polymorphism in object-oriented programming?

    (d) List any four tuple built-in methods in Python.

    (e) How can you sort a dictionary by its keys in Python?

    (f) Explain the role of file objects in file handling.

    (g) What is the purpose of assertions in Python?

    (h) How do you handle exceptions in Python? Provide an example.

    (i) What is a thread in Python? Mention its use.

    (j) How do you create a SQL database connection in Python?

PART-II

2. Short answer type questions. Attempt all.

    [5×4=20]

    (a) Explain the differences between Python variables and identifiers.

(b) Discuss the principles of object orientation with examples in Python.

(c) How can you read and write files using Python's file handiling methods?

(d) Describe the types of exceptions in Python with examples.

(e) Explain the process of creating and searching tables in a database using Python.

PART-III

3. (a) Explain the different operators in Python with examples. [12]

OR

(b) Write a Python program to demonstrate the use of sequences and string operations. [12]

4. (a) How are classes and objects created in Python? Explain with examples. [12]

OR

(b) Describe the list type built-in methods and demonstrate their usage in Python. [12]

5. (a) Write a Python program to demonstrate the use of nested dictionaries and sorting keys [12]

OR

(b) Explain regular expressions in Python and illustrate their usage with examples. [12]

(a)   Discuss exception handling in Python with a program that detects and handles a division-
       by-zero error.   [12]

                                        OR

(b)   What are standard exception in Python? Explain with examples.   [12]

(a)   Write a Python program to demonstrate multithreading with synchronization.   [12]

                                        OR

)   Explain how to interact with a database using Python. Provide an example of inserting
     and retrieving data.
                                                                                            [12]