

Q. P. Code: 12209

(Time: 2½ Hours)

[Total Marks: 75]

- N.B. 1) All questions are compulsory.
 2) Figures to the right indicate marks.
 3) Illustrations, in-depth answers and diagrams will be appreciated.
 4) Mixing of sub-questions is not allowed.
 5) Assume suitable data wherever required.

Q.1 Attempt All(Each of 5Marks)

(15M)

(a) Multiple Choice Questions

- <, >, <= are _____ operators
 i) Arithmetic ii) Logical iii) Relational iv) Assignment
- Which of the following function converts a string to all lowercase?
 i) lower() ii) isdecimal() iii) swapcase() iv) title()
- Python is _____ language.
 i) Compiled ii) Procedure iii) Interpreted iv) Non-Interactive
- What is the output of len(["Hello", "world", "Python"])?
 i) 1 ii) 2 iii) 3 iv) 4
- What is "Hello".replace("l", "e")
 ii) Heeeo iii) Hillo iii) Heleo iv) None of these

(b) Fill in the blanks

- What is the data type of the below object _____
 L = [11, 22, "hello", 1]
- arithmetic operator (%) is used for _____
- The term IDLE stands for _____
- To use in-built mathematical functions we need to import _____ module.
- An instance of a class is called as _____

(c) Write answers for the following in few lines

- Define Assignment statement.
- Write the use of def statement.
- What is the output when following statement is executed _____ ?

```
>>> "a" + "b"
```
- Define Expression statement.
- Explain the use of "pass" statement.

Q. 2 Attempt the following (Any THREE) (15M)

- What is the difference between simple and compound statements? Explain with example.
- What is variable? What are the rules and conventions for declaring a variable?
- Explain any five arithmetic operators in Python.
- Write a short note on tuple.
- Define Function. Write the syntax to define function. Give example of function definition.
- Write a program to calculate Simple Interest. Take Principal amount, rate of interest and number of years from the user. (Hint: Simple Interest = $(\text{Principal amount} * \text{Rate of interest} * \text{Number of years}) / 100$)

Q. 3 Attempt the following (Any THREE) (15M)

- How do we implement if condition? Explain with an example.
- Discuss the difference between local and global variable.
- What is actual and formal parameter? Explain the difference along with an example.
- Explain continue statement.
- What is nested loop? Explain with example.
- Write a program to print factorial of a number. Take input from user.

Q. 4 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- Discuss Anonymous function.
- Explain "Dictionary" concept.
- Define Built-in functions. List any 4 built-in functions. Explain dir() functions.
- Write a program to create an anonymous function to calculate cube of a number.
- What is List? Explain with example.
- Write a short note on class.

Q. 5 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- Discuss Operator Precedence along with an example.
- Explain Random module and its function.
- What is comment? Why we need it? How do we implement it?
- Write a python program to take a string from user and count number of vowel present in it.
- Explain for loop with example.
