

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)****(a) Multiple Choice Questions****(15M)**

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

**(b) Fill in the blanks**

1. What is the data type of the below object \_\_\_\_\_  
 $L = [1, 22, \text{'hello'}, 1]$ .
2. arithmetic operator (%) is used for \_\_\_\_\_
3. The term IDLE stands for \_\_\_\_\_
4. To use in-built mathematical functions we need to import \_\_\_\_\_ module.
5. An instance of a class is called as \_\_\_\_\_

**(c) Write answers for the following in few lines**

1. Define Assignment statement.
2. Write the use of del statement.
3. What is the output when following statement is executed \_\_\_\_\_ ?  
 $\gg> "a" + "b"$
4. Define Expression statement.
5. Explain the use of "pass" statement.

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

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

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

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

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

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

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

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

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