2021

Full Marks : 70

Time : 3 hours

The figures in the right-hand margin indicate marks

Answer **all** Sections as directed

Section—A

(Objective Type Questions)

1. Select the correct answers of the following : 5×1

(a) In order to store values in terms of key and values you use which core data type?

(i) list

(ii) tuple

(iii) class

(iv) dictionary

(b) What will be the output of the following python code?

print ("abcdef".find)"cd") == "cd" in "abcdef")

(i) True

(ii) False

(iii) Error

(iv) None of these

(c) What is the output when you execute list ("hello")?

(i) ['h', 'e', 'l', 'l' 'o']

(ii) ['hello']

(iii) ['llo']

(iv) ['olleh']

(d) Which of the following is not the correct syntax for creating a set?

(i) Set([[1,2],[3,4]])

(ii) Set([1,2,2,3,4])

(iii) Set((1,2,3,4))

(iv) {1,2,3,4}

(e) Which of the following statements is not true?

(i) A non-private method in a superclass can be overridden

(ii) A derived class is subset of superclass

(iii) The value of a private variable in the superclass can be changed in the subclass

(iv) When invoking the constructor from a subclass the constructor of superclass is automatically invoked

2. Fill in the blanks of the following : 5×1

(a) The Python source code is converted to ——— by the interpreter.

(b) Python's floating point counters ——— bytes.

(c) The Python statement list(range(1,10,3)) executed as ———.

(d) Global variable can be defined inside the function by the keyword ———.

(e) The base class for Python built in exception class is ———.

Section—B

(Short Answer Type Questions)

Answer *any four* questions of the following : 4×5

3. Differentiate between Java and Python.

4. Discuss built-in data type in Python.

5. Consider the following list :

li = [1,7,9,12,16] give the output of the following commands

(a) Li[0:3]

(b) Li[0:-1]

(c) Li[::-1]

(d) Li[-1:-4]

6. What is array in Python? State and explain the advantages of using an array in Python.

7. Explain instance method, class method and static method in detail giving suitable example.

8. Write a Python code to check a given number in Armstrong number or not.

Section—C

(Long Answer Type Questions)

Answer *any four* questions of the following : 4×10

9. What are exceptions in Python? Discuss the exception handling mechanism giving suitable example.

10. What is class? Discuss the following concepts with respect to a class in Python :

(a) The self-variable

(b) Constructor

(c) Instance variable.

11. Explain in detail about Python files, its type, functions and operations that can be performed on files with example.

12. What types of conditional structures are present in a programming language? How many of them are supported in Python? Explain with example.

13. Create a rectangle class, write Python code to check the area of the first rectangle is greater than the second by overloading '>' operator.

14. Write Python code to multiply two matrices using nested loops and also perform transpose of the resultant matrix.

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