2022/TDC (CBCS)/EVEN/SEM/
CACDSC–401T/353

TDC (CBCS) Even Semester Exam., 2022

COMPUTER APPLICATION

(4th Semester)

Course No. : CACDSC–401T

(Programming with Python)

Full Marks : 35
Pass Marks : 14

Time : 3 hours

The figures in the margin indicate full marks
for the questions

SECTION—A

Answer any *five* of the following questions :   2×5=10

1. Write down the difference between flowchart and algorithm.

2. Briefly explain different types of errors in programming.

3. Write down the structure of a Python Program.

(Turn Over)

4. What are identifiers and keywords in Python? Give example.

5. Briefly define input and output statements used in Python.

6. How are functions defined in Python? Give its syntax and example.

7. How to traverse a list using for loop?

8. How to convert a string to a list of characters?

9. What is the purpose of self-parameter? Also, mention the syntax to add methods using self-parameter.

10. Write a Python function to define PUSH and POP operation of stack.

SECTION—B

Answer any *five* of the following questions :   5×5=25

11. Draw a flowchart to find the greatest among three numbers.

12. Explain top down and bottom-up programming methodology.

---

13. *(a)* What is Python interpreter? How Python interpreter works?   3

(b) List different Python data types.   2

14. *(a)* Write a Python script to swap two numbers using simultaneous assignment to multiple variables.   2

(b) Translate the following mathematical formula into equivalent Python expression :   1

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

(c) Evaluate the expression

$$(x + y - abs(x - x)) \, || \, 2$$

when $x = 4$ and $y = 6$.   1

(d) How bitwise AND calculates in Python?   1

15. What is recursion? Write down its advantages. Also explain the stack diagrams for recursive functions.   1+2+2=5

16. How errors and exceptions are handled in Python? Explain different types of exceptions that occurs in Python.   2+3=5

(4)

17. Write Python script which defines a function count vowel(s) to display number of vowels and consonant present is a string.

18. Explain different methods used for list operations.

19. Write a Python program to implement bubble sort.

20. Write a program to create a class named Demo. Define two methods Get-string() and Print-string(). Accept the string from user and print the string in upper case.

★ ★ ★