

2026

COMPUTER SCIENCE — MDC

Paper : CC-8

(Programming in Python)

Full Marks : 75

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer **question no. 1** and **any three** questions from **Group-A** and **any five** questions from **Group-B**.

1. Answer **any five** questions :

2×5

- (a) What are different parameters in range function?
- (b) How try-except block is used in Python for exception handling?
- (c) Differentiate between lists and tuples in Python.
- (d) What does the '%' operator do in Python?
- (e) What are the usages of '**' operator on string in Python?
- (f) What do you mean by dictionary?
- (g) What are built-in functions? Give examples.
- (h) Explain identifiers in Python.

Group - A

- 2. (a) Write a python program to create a list containing five odd numbers using range function.
- (b) List two differences between list and dictionary.

3+2

- 3. (a) How can we access the second last element of a string?
- (b) Create a simple function which takes a string as an input and returns its length.

2+3

- 4. (a) Describe with example, the two types of loop used in python.
- (b) What will be the output of the following code?

```
str1 = "Computer"  
print(str1[3: ]).
```

3+2

- 5. Explain string slicing and string functions with examples.

5

- 6. Write a Python program to merge two lists. Explain list comprehension with examples.

3+2

Please Turn Over

(6380)

Group - B

7. (a) Explain the basic data types available in Python with example.
(b) Create a list with name of rivers 'Godavari', 'Kaveri' and 'Krishna'. Add a new element with value 'Narmada'.
(c) Change the first element's name to 'Tapti'. 4+(2+2)+2
8. (a) Write a Python program which takes input from user and calculates area and perimeter of a circle.
(b) What is a variable? How is it created and assigned a value of a particular datatype?
(c) Explain how you can create a string with the value 'Let's go'. 4+4+2
9. (a) Write a python program to calculate the factorial of a number.
(b) State the difference between local variable and global variable in Python.
(c) Describe the different membership operators in Python. 5+3+2
10. (a) Create a string with the value 'Hello world'. Print the string from 2nd character to 4th character.
(b) Create a simple function which takes a string as an input and returns its length.
(c) Explain the role of seek function in context to read. (2+2)+3+3
11. (a) How a tuple is created in Python? Explain with example.
(b) Differentiate between Syntax error and Exception.
(c) What is the purpose of break and continue?
(d) Explain the utility of doc string. 4+2+2+2
12. (a) Write a recursive function to check whether the user given input value is a magic number or not.
(Note : Say $n = 1999$ digit sum of $n \Rightarrow 1+9+9+9 = 28 \Rightarrow 2+8 = 10 \Rightarrow 1+0 = 1$, hence n is a magic number : that is 1999 is a magic number.)
(b) What is the utility of append function? Explain with an example. 5+5
13. (a) What is polymorphism in Python? Explain with examples. Explain encapsulation and abstraction in Python.
(b) Explain the difference between shallow copy and deep copy in Python. (3+3)+4
14. Write short notes on (*any two*) : 5×2
(a) Applications of dictionaries in Python
(b) Functions in Python
(c) File Handling in Python
(d) Object-Oriented Programming in Python.
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