

2025

COMPUTER SCIENCE

Full Marks : 100

Time : 3 hours

Answer **all** questions

The figures in the right-hand margin indicate marks

SECTION — A

1. Write the *correct* answer from the given alternatives : 1 × 10

(a) Firmware is stored in _____.

- ☒ (i) ROM
- (ii) RAM
- (iii) Hard Disk
- (iv) Cache

(Turn Over)

(2)

(b) Cache memory acts between _____.

- ☒ (i) CPU and Main Memory
- (ii) CPU and Hard Disk
- (iii) Main and Secondary Memory
- (iv) Input and Output

(c) LAN covers a _____ area.

- ☒ (i) Small
- (ii) Large
- (iii) Metropolitan
- (iv) National

(d) A compiler translates _____.

- (i) One instruction at a time
- ☒ (ii) Entire program at once
- (iii) Machine code
- (iv) Object code

(e) Pseudo code is used to _____.

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(Continued)

(3)

(i) Execute Program

☒ (ii) Design Algorithm

(iii) Debug Errors

(iv) Compile Code

(f) Python was developed by _____.

☒ (i) Guido van Rossum

(ii) Dennis Ritchie

(iii) James Gosling

(iv) Tim Berners-Lee

(g) Strings in Python are _____.

(i) Mutable

☒ (ii) Immutable

(iii) Both

(iv) Variable

(h) The operator // in Python performs _____.

☒ (i) Division

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(Turn Over)

(4)

- (ii) Integer Division
 - (iii) Modulus
 - (iv) Exponent
- (i) The keyword used to skip a block in Python is _____.
- ☒ (i) break
 - (ii) skip
 - (iii) pass
 - (iv) continue
- (j) The function used to find length of list is _____.
- (i) length()
 - (ii) size()
 - ☒ (iii) len()
 - (iv) count()

(5)

SECTION – B

2. Answer the following questions : 2×9
- (a) List any two input and output devices.
 - (b) Define software and its types.
 - (c) What is a computer network ?
 - (d) Mention two characteristics of a good program.
 - (e) Define debugging.
 - (f) Define mutable and immutable types in Python.
 - (g) What is indentation ?
 - (h) Differentiate between iteration and recursion.
 - (i) What is list comprehension ?

(6)

SECTION – C

3. Answer any *eight* of the following : 5×8

- (a) Explain the block diagram of a computer system.
- (b) Draw and explain basic flowchart symbols.
- (c) Discuss different types of programming errors with examples.
- (d) Explain basic data types in Python with examples.
- (e) Write a Python program to check whether a number is prime or not.
- (f) Write a Python program using functions to compute factorial using recursion.
- (g) Write a Python program to find the sum of all elements in a list.

(7)

(h) Write a Python program to display the first 10 natural numbers using a loop.

- (i) Explain different types of networks and their applications.
- (j) Write notes on Python modules and built-in functions.

SECTION – D

4. Answer any *four* of the following : 8×4

- (a) Explain different types of memory and their access methods.
- (b) Explain various programming languages and translators in detail.
- (c) Write a Python program to check whether a string is a palindrome.
- (d) Write a Python function that returns the square of a number.

(8)

(e) Explain various data structures in Python: lists, sets, tuples and dictionaries.
