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V Semester B.C.A. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2025 (2019 to 2023 Admissions)

Core Course
5B14BCA: PYTHON PROGRAMMING

Time: 3 Hours Max. Marks: 40

SECTION - A (Short Answer)

Answer all questions.

 $(6 \times 1 = 6)$ 

- 1. Name any one mutable data type in Python.
- 2. What does the input() function do?
- 3. What is a dictionary in Python?
- 4. Write the syntax for defining a function.
- 5. Name a NumPy array creation function.
- 6. What is a layout manager in Tkinter?

SECTION - B (Short Essay)

Answer any 6 out of the 8 questions.

 $(6 \times 2 = 12)$ 

- 7. Write a short note on the enumerate() function.
- 8. What is the purpose of comments in Python?
- 9. Explain keyword and default arguments.
- 10. Describe file handling operations in Python.

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- 11. Write a short note on class and object creation.
- 12. What is the use of the reshape() function in NumPy?
- 13. Explain the role of cursor in database connectivity.
- 14. Discuss Message and Text widgets in Tkinter.

## SECTION - C (Essay)

Answer any 4 out of the 6 questions.

 $(4 \times 3 = 12)$ 

- 15. Write a program to check whether a number is prime.
- 16. What are built-in exceptions? Explain with examples.
- 17. Explain array indexing and slicing in NumPy.
- 18. How do you perform transaction control in Python?
- 19. Describe GUI programming using Checkbutton, Listbox and Canvas.
- 20. Discuss the use of the import statement and its variants.

## SECTION - D (Long Essay)

Answer any 2 out of the 4 questions.

 $(2 \times 5 = 10)$ 

- 21. Write a Python program to implement the Fibonacci sequence using recursion.
- 22. Explain built-in and user-defined modules in Python with examples.
- 23. Write the code to create and display a bar chart using Matplotlib.
- 24. Write a GUI program using Entry widgets to build a simple login form.