

**2111000102040002**  
**BCA (Semester –II)**  
**Examination July-2023**  
**Programming Skills**

Seat No:

--	--	--	--	--	--

[Time: Three hours]

[Max. marks: 70]

Student's Signature

- Q.1** Answer in brief (Any 7) **14**
- 1) Define recursion. Give one example of it.
  - 2) Explain importance of typedef in C. Give one example of it.
  - 3) Explain the term: Python is an open source.
  - 4) Explain how to write comment in Python.
  - 5) Explain union in C.
  - 6) Explain the identity operators of python.
  - 7) Explain the range() function in python.
  - 8) Explain list slicing in python.
  - 9) What is meant by mutable and immutable type? Give one example of each.
- Q.2** A) Answer the following questions. (Attempt any Two) **10**
- 1) Explain the multidimensional character array in C.
  - 2) Explain type casting in python with proper example.
  - 3) Explain the different ways in which arguments can be passed to user defined function in python.
  - 4) Explain sequence data types in python.
- B) Explain the dictionary in python. **4**
- OR**
- B) Explain *for* loop with *pass* and *else* clause in python. **4**
- Q.3** Answer the following questions. (Attempt any Two) **14**
- 1) Write a note on the operation on string in python.
  - 2) Define structure in C. How to initialize it? Explain nested structure using example.
  - 3) Explain sets and its methods with example.
  - 4) Explain the categories of user defined function in C language.

- Q.4** A) Do as directed. (Attempt any Two) **6**
- 1) Differentiate between structure and array in C.
  - 2) Differentiate between tuple and list.
  - 3) Differentiate append() and extend() functions of list in python.
- B) Answer the following questions. (Attempt any Two) **8**
- 1) Explain formal and actual arguments in C.
  - 2) Write a note on multiple branching in Python.
  - 3) Explain logical and membership operators in Python.
  - 4) Explain loc() and iloc() to retrieve rows and columns.
- Q.5** A) Attempt any two **10**
- 1) Write a C program to create a structure has information empid, ename and designation. Accept details of N-employees from input device and display only the information of employees who are manager and earning salary between 30,000 and 40000.
  - 2) Write a user define function either in C or Python that checks whether an inputted number is a palindrome or not.
  - 3) Write a program to read a list of N integers (positive as well as negative). Create two new lists, one having all positive numbers and the other having all negative numbers from the given list. Print all three lists separately.
- B) Explain Pandas dataframe in brief. How to create dataframe using dict of equal length list? **4**
- OR**
- B) Write a note on NumPy. **4**