

ADVANCED DIPLOMA IN BIOINFORMATICS (A.D.B.) (CBCS-2019 COURSE)

A.D.B. SEM-I : WINTER :- 2021

SUBJECT: C PROGRAMMING & DATA STRUCTURE

Day : Wednesday
Date 2/2/2022

W-21124-2021

Time : 10:00 AM-01:00 PM
Max. Marks: 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the **RIGHT** indicate full marks.
 - 3) Both the sections should be written in **SAME** answer book.
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SECTION - I

- Q. 1** Explain any **FIVE** of the following: (10)
- a) Keyword in C with example.
 - b) Benefits of C.
 - c) The I/O function in C.
 - d) Recursion with example.
 - e) Benefits of a function.
 - f) Declaration and initialization of an array.
 - g) Type casting.
- Q.2** Answer any **TWO** of the following: (10)
- a) Explain looping structure available in C with proper syntax and flow diagram.
 - b) Differentiate between call by value and call by reference.
 - c) Write a program to print prime number in range of numbers (range-input through keyboard.)
- Q. 3** Answer any **TWO** of the following: (10)
- a) Write a note on structure of C program.
 - b) Write a program to illustrate use of break and continue statements.
 - c) Write a program to print transpose of 2D matrix (m*n-user input values).

SECTION - II

- Q. 4** Explain any **FIVE** of the following: (10)
- a) Standard library string functions Strstr and strcat.
 - b) Union.
 - c) Call by reference.
 - d) Binary search.
 - e) Pointer arithmetic.
 - f) File opening modes.
 - g) Different file formats in C.
- Q.5** Answer any **TWO** of the following: (10)
- a) Explain heap sort with example.
 - b) Write a program to implement stack and perform push, pop operations.
 - c) Explain node structure and operation performed on the doubly linked list.
- Q. 6** Write short notes on any **TWO** of the following: (10)
- a) The X and Y coordinates of 10 different points are entered through the keyboard. Write a program to find the distance of last point from the first point (sum of distance between consecutive points.)
 - b) Write a recursive function to obtain the running sum of first 25 natural numbers.
 - c) Write a program that merges lines alternately from two files and writes the results to new file. If one file has less number of lines than the other, the remaining lines from the larger file should be simply copied into the target file.

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