

PANJAB UNIVERSITY

PROBLEM SOLVING THROUGH C

(BCA 1ST SEMESTER)

Maximum Marks: 65

Note: - Attempt five questions in all, including Question No. 9 (Section E) which is compulsory and selecting one question each from Section A-D.

2022: -

SECTION – A

1. a) What is a flowchart? Draw a flowchart to find out total number of students in a class who have scored more than 60%. 6
b) What is a constant? Discuss different types of constants used in C language. 7
2. a) Discuss the structure of a C program with the help of an example program. 6
b) Discuss various arithmetic and assignment operators available in C language. Give appropriate examples. 7

SECTION – B

3. a) Discuss various looping statements used in C language. 6
b) What are different ways to pass parameters to a function? Explain with the help of examples. 7
4. a) How to use Switch, Break and Continue statements in a program? Give example code. 6
b) Define a function to print i^{th} Fibonacci where term i is passed as argument to the function. Use this function to print first n Fibonacci terms. 7

SECTION – C

5. a) Write a program to find greatest element in each row of a two-dimensional array. 6
b) How to declare an array (single and double dimensional)? How to access individual values in an array? How to initialize an array during compile time and run time? Give appropriate example code. 7

6. a) What is a pointer? How to use pointers with double dimensional array? Write a program to print all the elements of a two-dimensional array using pointers. 6
b) How to allocate memory dynamically? Discuss various functions used. 7

SECTION – D

7. a) Discuss the following string handling functions with the help of example code:
i) strcat() 6
ii) strcmp() 6
iii) strcpy() 6
b) Write a program to copy a string from one character array to another without using any built-in string handling functions. 7
8. a) How to use array of structures? Explain with the help of an example code. 6
b) How to create, open and close a file in a C program? Discuss various functions used to write into a file. 7

SECTION – E

(Compulsory questions)

9. Attempt *all* the following:
- a) Distinguish between local and global variables. 2
 - b) What are Data Flow Diagrams? Give example. 2
 - c) What logical operators are available in C language? 2
 - d) What is Union? Give example. 2
 - e) How are structures different from arrays? 2
 - f) What is the use of static storage class? 3