

2056
B.Sc. Data Analytics (FYUP)
Second Semester
BDA-201: Programming in C

Time allowed: 3 Hours

Max. Marks: 45

NOTE: Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question from each Unit I - IV.

x-x-x

UNIT - I

- I. Describe the complete programming process, detailing the importance of each step from problem identification to program testing. (9)
- II. Explain the different types of datatypes available in C and differentiate between primary (built-in) data types and derived data types. (9)

UNIT- II

- III. Explain the decision-making capability of C using if-statement, if-else, and nested if-else statements. Define its syntax and explain with the help of example. (9)
- IV. What is a recursion? Write a program to find the factorial of a number using recursive function. (9)

UNIT- III

- V. Define an array. Explain the process of declaring and initializing a two-dimensional array, and discuss how arrays are represented in memory. (9)
- VI. What are pointers? Explain the use of address (&) and indirection (*) operators. Why are pointers considered a powerful feature in C programming? (9)

UNIT- IV

- VII. What is string manipulation? Explain the significance of library functions like strcpy(), strcmp(), and strcat() in managing string data. (9)

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(2)

- VIII. Define a Structure in C. Explain the process of initializing structures and accessing their individual members. (9)

UNIT - V

IX. Write short answers:-

- a) Differentiate between while loop and do-while loop? (2)
- b) What is the purpose of break and continue statements in switch? (2)
- c) Write an algorithm and flowchart to find the greatest of three numbers. (3)
- d) Define the terms: Variable and Keyword. (2)

x-x-x