647510 **BCApcMJ201x-1C** **Seat No :_____**

B.C.A Semester - 1 (NEP-2020) Examination

OCT/NOV-2025

Problem Solving Methodologies and Programming in C (Theory) (Major-1)

Time: 2:00 Hours **Marks:50**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1 Answer any two. (10)

1. List and explain various data types in C.
2. Explain the concept of variable and constant with example.
3. List various relational operators. Explain any one with example.
4. What is Dry Run? How is it useful in programming practices?

Que.2 Answer any two. (10)

1. Explain Switch-case with example.
2. Explain the concept of nesting of loops.
3. What is the use of Goto statement? Explain with syntax and example.
4. What is the use of looping in programmng? Elaborate with example.

Que.3 Answer any two. (10)

1. Explain with example: string copy and string concatenation operation with library functions.
2. List various memory allocation functions. Explain any one.
3. Explain with syntax and example: fabs, floor.
4. What are library files? How they are useful in programming?

Que.4 Answer any two. (10)

1. Explain the concept of two dimensional array with example.
2. Differentiate between structure and union.
3. Explain the concept of array of structure with example.
4. What is multi-dimensional array? Exemplify its use by giving real life example

Que.5 Answer any two. (10)

1. Explain the concept and need of pointers.
2. Explain the concept and need of data files in C.
3. Explain how pointers are useful in dynamic programming?
4. Explain with example: pointer to structure.

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