

BCA [MAJOR]**[NEP-CBCS]****B.Sc. First Semester End Examination-2023****PAPER: BCAH-MJ101T***Full Marks: 40**Time: 02 Hrs**The figures in the right hand margin indicate marks**Candidates are required to give their answers in their own words as far as practicable**Illustrate the answers wherever necessary***Group A****1. Answer any FIVE questions of the following: 5x2= 10**

- i) What do you mean by header files?
- ii) What are the difference between an array and a structure?
- iii) Find the output of the fdollowing:-

```
int main()
{
    int x,y,z ;
    x=9++ ;
    y= ++x++ ;
    z = (x+y) -- ;
    printf ("x = %d, y = %d, z = %d \n", x, y) ;return 0;
}
```

- iv) What is malloc ()?

(2)

- v) What is string constant? How does it differ from character constant?
- vi) Define recursion. Given an example.
- vii) What is a void pointer? Give an example.
- viii) What do you mean by function prototype?

Group B

Answer any FOUR questions of the following: 4x5 = 20

- 2) Write the difference between 'while' and 'do while' loop. What is the purpose of 'switch' statement? 3+2
- 3) Differentiate between call-by-value and cell-by reference. What are the data types in C? 3+2
- 4) What is the relational operator in C? What do you mean by the term "return type" of a function? 2+3
- 5) Write a C program to find the n-th Fibonacci number using recursion.
- 6) a) What is preprocessing?
b) Name three pre-processor directives in C.

Group C

Answer any ONE question of the following: 1x10 = 10

- 7) i) What do you mean by Flow chart? Explain with an example. 1+3
ii) Write a program to transpose a matrix. 6

(3)

- 8) a) Explain the working of for loop in C with an example.
 - b) Differentiate break with continue
 - c) Write a C program to check Armstrong number (For example, $153 = (1^3 + 5^3 + 3^3)$). 2+2+6
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