[5823]-101

F.Y. B.Sc. (Computer Science)
CS-111 : Problems Solving Using Computer and 'C' Programming
(2019 Pattern) (CBCS) (Semester - I)

Time : 2 Hours]   *[Max. Marks : 35*

Instructions to the candidates:

    1)   *All questions are compulsory.*

    2)   *Figures to the right indicate full marks.*

    3)   *Assume suitable data if necessary.*

Q1) Attempt any Eight of the following :   [8 × 1 = 8]

    a)   What is a compiler?

    b)   What is linker?

    c)   Define pseudocode.

    d)   List the various data types in 'C' language.

    e)   What is the use of break & continue statement.

    f)   Write the syntax for nested if - else loop.

    g)   State the use of rewind ( ) function.

    h)   List the different storage classes.

    i)   List the types of arrays.

    j)   State the applications of arrays.

Q2) Attempt any Four of the following :   [4 × 2 = 8]

    a)   Define algorithm. Explain its characteristics.

    b)   Evaluate the following expressions assuming a is integer type variable.

        i)   a = 3/2 * 4 + 3/8

        ii) a = 2 * 3/4 + 4/4 + 8 − 2 + 5/8

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c) Explain for loop with example.

d) Explain the following function with example.

    i)   isupper( )

    ii) isalpha( )

e) Explain how can be declare and initialize 2D arrays.

Q3) Attempt any Two of the following :   **[2 × 4 = 8]**

a) Write an algorithm and flowchart for swap of two numbers.

b) Write a 'C' program to check whether a number is palindrome or not.

c) Explain recursive functions with example.

Q4) Attempt any Two of the following :   **[2 × 4 = 8]**

a) Trace the output for the following :

    i)
```c
#include <stdio.h>
int main( )
{
    int arr[ ] = {2, 3, 4, 1, 6};
    printf("%u, %u, %u\n", arr, & arr[0], & arri);
    return 0;
}
```

    ii)
```c
# include <stdio.h>
main ( )
{
    int i :
    for(i = 0; i < 5, i ++)
        printf("%d", i);
    return 0;
}
```

b) Explain the working of switch - case with syntax and example.

c) Explain arithmetic, relational and conditional operators.

Q5) Attempt any one of the following :   **[1 × 3 = 3]**

    a)   Write a program in 'C' to find whether the number is even or odd using functions.

    b)   Write a 'C' program to accept m×n matrix and print sum of all elements of a matrix.

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