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Shree Damodar College of Commerce & Economics, Margao-Goa
FY BCA, Semester-I, Supplementary Examination June 2023
Problem Solving and Programming Concepts (CAC 101)

Duration: 2 hrs   **Max Marks: 60**

Instructions:

1) Start each question on a fresh page.
2) Figures to the right indicate maximum marks.

Q.1.(X) Define the following: 5X1=05

     a. Variable
     b. Program Design
     c. Modular Programming
     d. Strings
     e. 2D array

Q.1.(Y) Match the following :   5x1=05

1) Mnemonics	A) Header File
2) Recursion	B) Assembly Language
3) Variable	C) Interpreter
4) Language Translator	D) Should not begin with a digit
5) stdio.h	E) Function calling itself

Q.2 Answer the following :

(a) Why is it difficult to write programs directly in machine language?   2x1=02

(b) Differentiate between High Level and Machine Level Languages. (2 points)   3x1=03

(c) Illustrate the use of three data types with the help of an example of each.   5x1=05

Q.3 Answer the following :

(a) Show the compilation process of programming life cycle.　　2x1=02

(b) Differentiate between Algorithm and Pseudocode.　　3x1=03

(c) Write an Algorithm to check if a number is even or odd.　　5x1=05

Q.4. Answer the following :

(a) Define the purpose of the conditional statement if-else.　　2x1=02

(b) Prepare a flowchart To find the sum of the two values given by the user.　　3x1=03

(c) Illustrate the role played by pointers with an example of the Call by Reference method of functions.　　5x1=05

Q.5 Answer the following:

(a) State logical errors with the help of an example.　　2x1=02

(b) Explain the use of comments in a C program.　　3x1=03

(c) Write the syntax of declaring an Array and explain the index mechanism of an array using an example.　　5x1=05

Q.6 Answer the following:

(a) Write the syntax of a user defined function.　　2x1=02

(b) Explain two benefits of using functions.　　3x1=03

(c) Evaluate this Code and answer the questions below: 5x1=05

(i)
```c
#include<stdio.h>
int main()
{
        int number
        printf(Please enter a number:");
        scanf("%d",&number);

        if (number < 100)
         printf("Number is less than 100!\n");

        else if (number == 100)
                printf("Number is 100!!\n")
            else
                printf("Number is greater than 100!\n");
return 0;
}
```

x) Rewrite the above code after correcting the errors.

y) For input value of 100, explain the working as per the logic mentioned in the code.

z) Display the Output (If the user input is 95).