

**Vidya Vikas Mandal's**  
**Shree Damodar College of Commerce & Economics, Margao-Goa**  
**FY BCA, Semester-I, Semester End Examination November 2022**  
**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. Bug
- b. Problem Analysis
- c. Array
- d. Algorithm
- e. Documentation

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

1) Assembler	A) Preprocessor Directive
2) Recursive	B) if-else
3) Conditional Statement	C) Translator
4) Menu Driven	D) Switch Statement
5) #include	E) Function calling itself

**Q.2 Answer the following :**

(a) Differentiate between a Compiler and an Interpreter.  
 (2 Points each)

**2x1=02**

(b) Compare low level and high level languages ( 2 points)

**3x1=03**

(c) Illustrate the use of two Relational operators in programming using an example.

**5x1=05**

**Q.3 Answer the following :**

- (a) Differentiate between debugging and testing. (2 points each) 2x1=02
- (b) List the six steps in the programming life cycle / problem solving. 3x1=03
- (c) Write an Algorithm to find the average of two numbers. 5x1=05

**Q.4. Answer the following :**

- (a) Indicate how is a While Loop different from a Do While Loop? 2x1=02
- (b) Prepare a flowchart for the following : 3x1=03  
To find if the entered number is positive and display a message accordingly .
- (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) Explain syntax error with the help of an example 2x1=02
- (b) Describe the basic structure of a C program with the help of an example. 3x1=03
- (c) Explain the use of 2D arrays with the help of an example. 5x1=05

**Q.6 Answer the following:**

- (a) Define an integer array for storing 8 elements. 2x1=02
- (b) Explain any three C string functions with the help of an example. 3x1=03

(c) Evaluate this Code and answer the questions below:

5x1=05

```
(i) #include <stdio.h>
int main()
{
    int num
    printf("Enter an integer: ");
    scanf("%d", &num);

    if(num % 2 == 0)
        printf("%d is even.", num);
    else
        printf("%d is odd , num);

    return 0;
}
```

- x) Rewrite the above code after correcting the errors.
  - y) For input value of 9, explain the working as per the logic mentioned in the code.
  - z) Display the Output ( If the user input is 44).
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