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Shree Damodar College of Commerce & Economics, Margao-Goa
F.Y.B.C.A, SEM I, Supplementary Examination, May/June 2019

PROBLEM SOLVING & PROGRAMMING CONCEPTS (BCA-11)

Duration: 2 Hours

Total Marks: 50

Instructions: 1) All Questions are Compulsory.
2) Figures to the right indicate Full Marks.
3) Start each new question on a fresh page

Q.1 Answer the following

Marks (10)

A) State true or false and justify your answers.

(5)

- i) A character variable can store only character at a time.
- ii) Spaces can be present in a variable name.
- iii) All the things that can be done using a for loop can also be done using a while loop.
- iv) For loop can be used, if we want statements in a loop to get executed at least once.
- v) Function can contain more than one return statement.

B) Give one term for the following:

(5)

- 1) Name given to a memory location, the value stored in which can keep on changing.
- 2) Function calling itself.
- 3) When a number of similar/dissimilar data types need to be grouped together, we use _____.
- 4) Keyword used if you want the variable to persist across function calls.
- 5) A C program is a collection of _____.

Q.2 Answer the following

Marks (10)

a) What do you mean by passing the parameters by reference in a function?

(2)

Elaborate using example.

b) What is an Algorithm? Write an algorithm to find the largest of 3 elements entered through a keyboard.

(3)

c) ABC bank has the following interest rates depending on the duration of the deposit:

(5)

Number of days of Deposit	
<60	4%
60 to 90	4.5%
90 to 180	5.5%
180 to 361	6.5%
>361	7%

Draw a flowchart to assign interest rates according to the above condition. When number of days are entered through the keyboard.

Q.3 Answer the following**Marks (10)**

a) What is the output of the following program

(2)

```
#include<stdio.h>

int main()
{
    int x=5,y=10;
    predict(x,&y);
    printf("%d%d",x,y);
}

void predict(int a,int *b)
{
    a=20;
    *b=30;
}
```

b) Explain the working of the switch case syntax.

(3)

c) Write an algorithm to find the factorial of a number entered through the keyboard.

(5)

Q.4 Answer the following**Marks (10)**

a) What are functions in C and why is it used?

(2)

b) Write three difference between source code and object code

(3)

c) Write a note on recursion with a suitable example.

(5)

Q.5 Answer the following**Marks (10)**

a) Distinguish between local and global variables.

(2)

b) Mention any three storage classes and their significance.

(3)

c) What are arrays? Can you define arrays of any datatype?

(2)

2) Solve the following.

(3)

i) If $a=b>c?b:c$ what will value of 'a' be ifa) $b=8, c=5$ andb) $b=6, c=16$ ii) Expression $a=3/2+5*4/3$ will be evaluated to _____