Professional Course Examination, 2020

(2nd Semester)

BACHELOR OF COMPUTER APPLICATIONS

(Programming Language Through C)

Full Marks : 75

Time : 3 hours

(PART : A—OBJECTIVE)

(*Marks* : 25)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks* : 15)

Tick (✓) the correct answer in the brackets provided : 1×10=10

1. How many main ( ) functions we can have in any program?

(a) 1 ( )

(b) 2 ( )

(c) No limit ( )

(d) Depends on compiler ( )

2. What will be the data type of the result of the following operation?

(float)a * (int) b/(long) c * (double) d

(a) int ( )   (b) long ( )

(c) float ( )   (d) double ( )

3. A user define data type, which is used to assign names to integral constants is called

(a) union ( )   (b) structure ( )

(c) array ( )   (d) enum ( )

4. What is the output?

```
int main ( )
{
int n;
for (n=9; n !=0; n--)
   printf ("n=%d", n--)
return ( );
}
```

(a) 9 7 5 3 1 ( )   (b) 9 8 7 6 5 4 3 2 1 ( )

(c) infinite loop ( )   (d) 9 7 5 3 ( )

5. What is the output of the following?

```
int main ( )
{
    int x=10;
    {
      int x=0;
      printf ("%d", x);
    }
    return 0;
}
```

(a) 10 ( )   (b) Compilation error ( )

(c) 0 ( )   (d) Undefined ( )

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6. Value of static storage variable

    (a) changes during different function calls   (   )

    (b) persists between different function calls   (   )

    (c) increase during different function calls   (   )

    (d) decrease during different function calls   (   )

7. Which of the following is the correct syntax to send an array as a parameter to function?

    (a) func (*array)   (   )   *(b)* func (array[size])   (   )

    (c) func (&array)   (   )   *(d)* func (#array)   (   )

8. Which of the following is correct about the program?

    (a) j is pointer to an int and stores address of i   (   )

    (b) j and i are pointers to an int   (   )

    (c) i is a pointer to an int and stores address of j   (   )

    (d) j is a pointer to pointer to an int and stores address of i   (   )

9. Which of the following operations is illegal in structure?

    (a) Pointer to a variable of the same structure   (   )

    (b) Dynamic allocation of memory for structure   (   )

    (c) Typecasting of structure   (   )

    (d) Both *(a)* and *(b)*   (   )

10. Choose the right statement for fscanf ( ) and scanf ( ) :

    (a) fscanf ( ) can read from standard input whereas scanf ( ) specifies a stream from which to read   (   )

    (b) fscanf ( ) can specifies a stream from which to read whereas scanf ( ) can read only from standard input   (   )

    (c) fscanf ( ) and scanf ( ) has no difference in their functions   (   )

    (d) fscanf ( ) and scanf ( ) can read from specified stream   (   )

Indicate whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided :

1×5=5

1. Algorithm is the graphical representation of logic.

(T / F)

2. It is necessary that a loop counter must only be an integer. It cannot be a float.

(T / F)

3. In case of conflict between the names of a local and global variable, global variable is given a priority.

(T / F)

4. There are chances of wastage of memory space if elements inserted in an array are lesser than the allocated size.

(T / F)

5. In structure, there is separate memory location for each member but union share the same memory.

(T / F)

SECTION—B

(*Marks* : 10)

2×5=10

Answer the following questions :

1. What are local and global variables?

2. Write and explain the general format of loop.

3. What is the difference between actual parameter and formal parameter?

4. Write a short note on multidimensional array.

5. What is the use of nested structure?

(PART : B—DESCRIPTIVE)

(Marks : 50)

The figures in the margin indicate full marks for the questions

1. (a) Explain the structure of C program.   6

   (b) What are the different data types in C?   4

OR

   (c) What are arithmetic, relational and assignment operators?   6

   (d) Explain unformatted input/output function in C.   4

2. (a) Explain the working of break and continue with an example.   5

   (b) Write the general syntax of else...if ladder. Explain with an example.   5

OR

   (c) Explain while loop and do...while loop. Mention its differences.   5

   (d) Write a program to print the first nth Fibonacci series using 'for' loop.   5

3. (a) Explain call by value with appropriate program.   4

   (b) What is recursive function? Write a program to calculate factorial of a given number by using recursive function.   6

OR

   (c) Discuss the different categories of user define functions. Illustrate with example.   10

4. (a) Write the syntax of two-dimensional arrays. How do you declare and initialize in array?   4

   (b) Write a C program to find the addition of two matrices.   6

OR

   (c) What are the uses of pointer? How do you declare and initialize a pointer?   5

   (d) Explain an array of pointer with appropriate example.   5

5. *(a)* What is a structure? How is it different from union? Explain with suitable example. 5

(b) Explain self-referential structure and typedef. 5

OR

(c) What is file? Explain any five various operations on file. 6

(d) Explain different modes of opening a file. 4

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