Professional Course Examination, May 2024

(CBCS)

(2nd Semester)

BACHELOR OF COMPUTER APPLICATIONS

(Programming Language through C)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(PART : A—OBJECTIVE)

(*Marks* : 25)

SECTION—I

(*Marks* : 15)

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

1. Which of the following is not a valid C variable name?
   (a) int number; ( )
   (b) float rate; ( )
   (c) intvariable_count; ( )
   (d) intmain#; ( )

2. Which of the following declarations is not supported by C language?
   (a) String str; ( )
   (b) char *str; ( )
   (c) float str = 3e2; ( )
   (d) int a[2] [2]; ( )

3. Which of the following is an example of iteration in C?

(a) for ( )

(b) while ( )

(c) do-while ( )

(d) All of the above ( )

4. How many times 'i' value is checked in the following C program?

```
#include<stdio.h>
int main(void)
   {
      int i=0;
      while(i<3)
            i++;
      printf("In while loop\n");
   }
```

(a) 2 ( )

(b) 3 ( )

(c) 4 ( )

(d) 1 ( )

5. What will be the final value of 'x' in the following C code?

```
#include<stdio.h>
void main()
{
  int x = 5 * 9/3+9;
}
```

(a) 3·75 ( )

(b) 4·09 ( )

(c) 24 ( )

(d) 3 ( )

6. Which keyword can be used to come out of recursion?

(a) break ( )

(b) return ( )

(c) exit ( )

(d) Both break and return ( )

7. What are the elements present in the array of the following C code?

Int array[5] = {5};

(a) 5, 5, 5, 5, 5 ( )

(b) 5, (garbage), (garbage), (garbage), (garbage) ( )

(c) 5, 0, 0, 0, 0 ( )

(d) (garbage), (garbage), (garbage), (garbage), 5 ( )

8. Which of the following is an indirection operator?

(a) & ( )

(b) * ( )

(c) -> ( )

(d) . ( )

9. Which of the following are themselves a collection of different data types?

(a) string ( )

(b) structures ( )

(c) char ( )

(d) array ( )

10. What is meant by 'a' in the following C operation?

fp = fopen("Random.txt", "a");

(a) Attach ( )

(b) Append ( )

(c) Apprehend ( )

(d) Add ( )

B. Indicate whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided : 1×5=5

1. For a given expression z=x++---y where x=5 and y=5, z will give the value 0.

(T / F)

2. The keyword 'break' is usually used in the conditional statements.

(T / F)

3. The function's return type in C which does not return any value is void.

(T / F)

4. The structure in C language is a collection of same as well as different data types.

(T / F)

5. The function of fputs( ) is to write a line to a file.

(T / F)

SECTION—II

(*Marks* : 10)

C. Answer the following questions : 2×5=10

1. *(a)* Write a simple C program to illustrate the basic structure of C program.

OR

(b) What are assignment operators?

2. *(a)* What is meant by infinite loop?

OR

(b) Define enumeration in C by giving a suitable example.

3. *(a)* Define static variable in C. Write a syntax to declare a static variable.

OR

(b) Write any two advantages of using function in C.

4. *(a)* What is meant by multidimensional array?

OR

(b) Write any two characteristics of pointers.

5. *(a)* Declare a structure with three members of integer, string and float type.

OR

(b) What is meant by typedef? When do we use them?

(PART : B—DESCRIPTIVE)

(*Marks* : 50)

D. Answer the following questions : 10×5=50

1. *(a)* Write any five arithmetic expressions with suitable examples. 5

   (b) What is constant? Explain different types of constant in C. 5

OR

2. *(a)* What are formatted input and output in C? Write a suitable C program to illustrate its uses. 5

   (b) What is type conversion in C? Explain the two types of type conversion in C. 5

3. *(a)* Differentiate between decision making statement and looping statement. 5

   (b) What is 'IF' in C? Explain how if-else statement works in C. 5

OR

4. *(a)* Write notes on the following keywords : 4

   continue, goto

   (b) What is looping in C? Explain the different types of looping in C programming. 6

5. *(a)* Write a recursion program in C to find the factorial of a given function. 6

   (b) Define the scope and lifetime of a variable. 4

OR

6. *(a)* What are functions in C? Explain the prototype of functions. 4

   (b) Explain briefly auto and static storage classes with examples. 6

7. *(a)* Define array. Explain the three types of array with example. 7

   (b) Write the differences between pointers and arrays. 3

OR

8. *(a)* Write the advantage and disadvantage of array. 5

   (b) Define pointers. How do we declare and access pointers? 5

9. *(a)* Write the comparisons of structure and union. 3

   (b) Write the advantage of using structures in C with appropriate example. 7

OR

10. *(a)* Define arrays within structures. Write a sample C program to illustrate array within structures. 7

    (b) Explain any three standard library functions for file handling in C. 3

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