SOLUTION 2011

Group – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for any ten of the following:

i) Which of the following operators accepts only integer operands?

✓a) +   ✓b) *   ✓c) /   ✓d) %

ii) Do-While loop is called .... in C language.

a) entry controlled loop

c) both (a) and (b)

✓b) exit controlled loop

d) none of these

iii) C supports the .... statement to branch unconditionally from one point to another in the program.

a) Continue   b) Break   ✓c) Goto   d) Switch

iv) An array of string ends with
   a) NULL
   c) 0
   b) last character of the string
   ✓d) none of these

terminated by a null character ('\0')

v) The declaration of float *a[5]; is
   a) a normal pointer
   ✓c) an array of pointer
   b) an ordinary array
   d) a pointer to an array

vi) When the pointer is incremented by one, it results the pointer to
   ✓a) point the next element
   c) both (a) & (b)
   b) increment its data value by one
   d) none of these

vii) Call by reference is done with the .... of the variable.
   a) contents   ✓b) address   c) both (a) and (b)   d) none of these

viii) Static memory allocation means allocation during .... time.
   ✓a) compile   b) run   c) allocation   d) de-allocation

ix) The mode used for creating a text file for read/write is
   a) r+   ✓b) w+   c) a+   d) w

x) What should be the correct output of the following program?

```
main ( )
{
    int k, num = 30;
    k = (num>5?(num<10?100:200):500);
    printf("%d%d", num, k);
}
```

   a) 200 30   b) 30 100   ✓c) 30 200   d) 30 500

xi) What is the value of y in the following code?

```
x=7; y=0;
if (x=6)
      y=7;
else
      y=1;
```

   ✓a) 7   b) 0   c) 1   d) 6

xi) Determine the output:

```
f()
{
static int i = 0;
i++;
if (i<=3)
{
printf ("\n%d", i);
f();
}
else
exit (0);
}
main () {f();}
```

a) 1, 2   b) 2, 3   ✓c) 1 2 3   d) None of these

Group – B
(Short Answer Type Questions)

2. a) What do you mean by local variable and global variable?
b) Discuss on various available storage classes in C.
a) See Topic: FUNCTIONS, Short Answer Type Question No. 18.
b) See Topic: FUNCTIONS, Long Answer Type Question No. 4.

3. What do you mean by recursion?
Write a recursive function called power ( ) to calculate x rise to the power n.
See Topic: FUNCTIONS, Short Answer Type Question No. 2.
See Topic: FLOW OF CONTROL, Long Answer Type Question No. 7.

4. Compare array and linked list.
See Topic: DYNAMIC MEMORY ALLOCATION, Short Answer Type Question No. 4.

5. a) Distinguish between structure and union.
b) Write down the following program in C:
Input an M-digit number. Print its digit one by one. (least significant bit first)
a) See Topic: STRUCTURES AND UNIONS, Long Answer Type Question No. 3(b).
b) See Topic: FLOW OF CONTROL, Long Answer Type Question No. 17.

6. Write a program to print the sum of the following series of n terms:
$$S = 1 + (1+2) + (1+2+3) + \cdots$$
See Topic: FLOW OF CONTROL, Long Answer Type Question No. 5.

Group – C
(Long Answer Type Questions)

7. a) Do you have the facility of multiple way branching in C? If so, how? Explain your answer with an example.

b) Write down the differences between 'do-while' and 'while-do' statements in C.

c) What is a macro? Write down the advantages of macro over function.

a) See Topic: FLOW OF CONTROL, Short Answer Type Question No. 9.

b) See Topic: FLOW OF CONTROL, Short Answer Type Question No. 3.

c) See Topic: C FUNDAMENTALS, Long Answer Type Question No. 2(c).

8. a) Give example of each of the following:

   i) Function returning a pointer to an array of float.

   ii) Function returning a pointer to a function returning float.

   iii) Pointer to pointer to integer

   iv) Pointer to an array of integers.

   v) Pointer to an array of pointers to a function returning characters.

b) Discuss on call by value and call by reference.

See Topic: POINTERS, Long Answer Type Question No. 6.

9. a) Explain with examples the meaning of explicit and implicit type casting.

b) Compare between static memory allocation and dynamic memory allocation.

c) Write down program in C that will accept a string from the user and print the frequency of each characters of the string entered.

a) See Topic: OPERATORS, EXPRESSIONS & MANAGING INPUT OUTPUT, Long Answer Type Question No. 6.

b) See Topic: DYNAMIC MEMORY ALLOCATION, Short Answer Type Question No. 5.

c) See Topic: ARRAY, Short Answer Type Question No. 5.

10. a) What do you mean by integer division in C?

b) Write a note on logical operators available in C.

c) Write down a program that will find out the maximum and the minimum of the given set of n numbers (you can examine the set of numbers only once).

a) See Topic: C FUNDAMENTALS, Short Answer Type Question No. 4.

b) See Topic: OPERATORS, EXPRESSIONS & MANAGING INPUT OUTPUT, Long Answer Type Question No. 7(d).

c) See Topic: POINTERS, Long Answer Type Question No. 4.

11. Differentiate between any three of the following:

a) Declaring a variable

b) Break and exit

c) Union and structure

d) auto and extern.

a) WRONG QUESTION

b) See Topic: FLOW OF CONTROL, Short Answer Type Question No. 9.

c) See Topic: STRUCTURES AND UNIONS, Long Answer Type Question No. 3(b).

d) See Topic: C FUNDAMENTALS, Short Answer Type Question No. 5.