REV-00
MSE/05/10

2014/01

M.Sc. Electronics
First Semester
C Programming
(MSE- 02)

Duration: 3Hrs. **Full Marks: 70**

Part-A (Objective) =20
Part-B (Descriptive)=50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins. **Marks: 50**

1. Answer the following questions- (any *five*) **2 × 5=10**

a) What is nested structure?
b) What are the differences between structure and union?
c) Write a short note on pointers.
d) Draw the structure of a C program.
e) Define function. How many types of functions are available?
f) What is recursion? What are the two conditions of recursion?
g) What is a string? Write a statement to declare and initialize a sting.

2. Answer the following questions- (any *five*) **3×5=15**

a) Explain the methods of compiling and executing a C program along with a clear diagram.
b) Specify three different element needed for creating a function. Write their syntax taking an example.
c) Broadly classify operators available in C. Explain any one category.
d) What is a Constant? How many types of constants are available? Write the rules of naming a constant.
e) Write the output-

```
main()
{
int a=5, b=5;
printf("%d %d",a++,b- -);
printf("%d %d",a,b);
}
```

f) What is a file? Differentiate between a text file and a binary file.

g) What is the difference between call by value and call by reference in a user defined function in C? Give an example to illustrate the same.

3. Answer the following questions- (any *five*) **5×5 = 25**

a) Write a program to find the sum and product of two floating point numbers in two different functions.

b) Explain the different modes in which a file can be opened in a C program.

c) Write a program to create an structure to accept **20** records of students. The member of the structure are- name, roll_no and marks. Enter data of the students and display them.

d) Write a program using switch case to create a calculator, which can perform four operations- addition, subtraction, multiplication and division with two numbers based on users choice.

e) Write a program to check whether a given number is Armstrong or not.

f) Write a program to find the largest element of an array.

g) Write a program to add two matrices of order 3x4.

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(The figures in the margin indicate full marks for the questions)

Duration: 20 minutes **Marks – 20**

PART A- Objective Type

I. Choose the correct options from the following: **1 ×20=20**

1. The elements of an array are stored in _____ memory locations.

   a) Consecutive b) Non-consecutive c) Random d) None of these

2. The subscript of an array starts with which of the following:

   a) 0 b) 1 c) 2 d) 3

3. Which return type can not return any value to the caller?

   a) Int b) float c) void d) double

4. The function that is invoked is known as:

   a) calling function b) caller function \

   c) called function d) invoking function

5. The inputs that the function takes are known as

   a) arguments b) constants c) variables d)None of these

6. Parameters used in function call are known as:

   a) Formal argument b) Actual arguments c) External arguments d) None of these

7. The default storage class of global variables is:

   a) auto b) static c) register d) extern

8. While declaring pointer variables,which operator do we use

   a) address b) arrow c) indirection d) dot

9. If an array is declared as arr[]={1,3,5,7,9}; then what is the value of arr[3]?

a) 1 b) 7 c) 9 d) 5

10. If an array is declared as int arr[5][5], then how many elements it can store?

a) 5 b) 25 c) 10 d) 0

11. The function malloc() is declared in which header file?

a) Stdio.h b) stdlib.h c) conio.h d) iostream.h

12. The operator which compares two values:

a) assignment b) relational c) unary d) conditonal

13. Ternary operator operates on how many operands:

a) one b) two c) three d) four

14. Which operator has the lowest precedence:

a) sizeof b) unary c) assignment d) comma

15. Which function is used to request memory and set all allocated bytes to zero?

a) malloc() b) calloc() c) realloc() d) free()

16. Which function gives the current position of the file?

a) fseek() b) fsetpos() c) ftell() d) rewind()

17. which operator cannot be used with float operands

a) + b) - c) * d) %

18. A data structure that can store related information of different data types together is:

a) array b) string c) structure d) all of these

19. A structure member variable is generally accessed using :

a) add operator b) dot operator c) comma operator d) ternary

20. strcat() is defined in which header file:

a) ctype.h b) stdio.h c) string.h d) math.h

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