2023/12

MASTER OF COMPUTER APPLICATION
FIRST SEMESTER (REPEAT)
PROGRAMMING CONCEPT & METHODOLOGY
MCA-102
[USE OMR SHEET FOR OBJECTIVE PART]

SET

A

Duration: 3 hrs.

Full Marks: 70

(Objective)

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1×20=20

1. How many values can a C Function return at a time?
   - a. No Limit
   - b. Only One Value
   - c. Maximum of two values
   - d. Depends on Compiler

2. What is the output of the following program?
   ```
   #include<stdio.h>
   main()
   {
   char s1[20], s2[50]="hello";
   s1=s2;
   printf("%s",s1);
   }
   ```
   - a. Hello
   - b. No output
   - c. Compile error
   - d. Runtime error

3. What is the output of the following C program?
   ```
   int main()
   {
    struct book
    {
      int pages;
      char name[10];
    }a;
    a.pages=10;
    strcpy(a.name,"Cbasics");
    printf("%s=%d", a.name,a.pages);
    return 0;
   }
   ```
   - a. empty string=10
   - b. C=basics
   - c. Cbasics=10
   - d. Compiler error

4. What is the size of a C structure?
   - a. C structure is always 128 bytes
   - b. Size of C structure is the total bytes of all elements of structure
   - c. Size of C structure is the size of largest element
   - d. None of the above

5. A C variable can start with a_____.
   - a. Number
   - b. Plus Sign(+)
   - c. Underscore
   - d. Asterisk(*)

USTM/COE/R-01

6. A pointer that is pointing to NOTHING is called_____.
   a. VOID Pointer   b. Referencing Pointer
   c. NULL Pointer   d. Dereferencing Pointer

7. The first and second arguments of fopen() are:
   a. A character string containing the name of the user & the second argument is the mode
   b. A character string containing file pointer & the second argument is the mode
   c. A character string containing the name of the file & the second argument is the mode
   d. A character string containing the name of the file & the second argument is the address of the file

8. What does this statement mean?
   $x -= y + 1;$
   a. $x = x - y + 1$ b. $x = -x - y - 1$
   c. $x = x + y - 1$ d. $x = x - y - 1$

9. Which one is not a reserve keyword in C Language?
   a. auto   b. main
   c. case   d. register

10. Which of the following true about FILE *fp?
    a. FILE is a keyword in C for representing files and fp is a variable of FILE type
    b. FILE is a stream
    c. FILE is a buffered stream
    d. FILE is a structure and fp is a pointer to the structure of FILE type

11. If there is any error while opening a file, fopen() will return?
    a. Nothing   b. EOF
    c. NULL   d. Depends on compiler

12. What is the 16-bit compiler allowable range for integer constants?
    a. -3.4e38 to 3.4e38   b. -32767 to 32768
    c. -32668 to 32667   d. -32768 to 32767

13. C is _____type of programming language.
    a. Object Oriented   b. Procedural
    c. Bit level language   d. Functional

14. What is required in each C program?
    a. The program must have at least one function
    b. The program does not require any function
    c. Input data   d. Output data

15. What will be the output of the following program?
```
void main()
{
  printf("\n%d",f(7));
}
int f(int x)
{
  if(x<=4)
    return x;
  return f(--x);
}
```

a. 4 5 6 7   b. 1 2 3 4
c. 4   d. 6

16. What is the output of this statement "printf("%d", (a++))"?
    a. The value of (a + 1)   b. The current value of a
    c. Error message   d. Garbage

17. Suppose that cPtr is a character pointer, and its current content is 300. What will be the new value in cPtr after the following assignment?
        cPtr = cPtr + 5;
    a. 305   b. 310
    c. 320   d. 340

18. How many times will the following loop execute?
    for(j = 1; j <= 10; j = j-1)
    a. Forever   b. Never
    c. 0   d. 1

19. What will be the output of the following program?
    ```c
    void main()
    {
      int a;
      printf("TIGER COUNT=");
      a=show();
      printf("%d", a);
    }
    int show()
    {
      return 15;
      return 35;
    }
    ```
    a. TIGER COUNT=15   b. TIGER COUNT=1535
    c. TIGER COUNT=35   d. TIGER COUNT=0

20. Which of the following symbol is used to denote a pre-processor statement?
    a. !   b. #
    c. ~   d. ;

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(Descriptive)

Time : 2 hr. 30 mins.   Marks : 50

[Answer question no,1 & any four (4) from the rest]

1. What is the significance of an array name & a pointer variable? Explain with the help of a suitable diagram and an example.   10

2. a) Write a program in C to find the sum of the series $1!/1+2!/2+3!/3+4!/4+5!/5$ using the function.   5+5=10
   b) What is recursive function? Explain Memory allocation of Recursive method with an example.

3. a) What is pre increment & post increment? Define with the help of example.   (4+2)+4=10
   b) Write a program to find all the Armstrong Numbers starting from 1 upto a range given by the user.

4. a) Why file handling is important?   2+4+4=10
   b) Explain different file handling functions with proper syntax of each.
   c) Explain how we can open a file in C language. Write a program in C to create and store information in a text file.

5. a) How an Object can be defined as a pointer?   3+7=10
   b) Write a program to define a structure of Student and display the records of those students whose course is MCA and semester is 1st using pointer objects.

6. a) What are the functions used to read and write a single character, explain with the syntax along with examples for each.   5+5=10
   b) Write a program to check a character is alphabet or not & if it's an alphabet then check whether it is vowel or consonant.

7. a) What is the use of Structure in C language? How many ways we can define structure variable explain with example?   4+6=10
   b) Store the following information of n books using structures and display them.
   Book id, title, author, price.

8. a) Explain all the ways to define a constant in C Programming.   4+6=10
   b) Write a program to find the area of triangle & circle using constants in all the ways.

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