Module 2

Q 1) What is right way to Initialize array?

A.int num[6] = { 2, 4, 12, 5, 45, 5 };

B.int n{} = { 2, 4, 12, 5, 45, 5 };

C.int n{6} = { 2, 4, 12 };

D.int n(6) = { 2, 4, 12, 5, 45, 5 };

Q 2) 2. An array elements are always stored in _____ memory locations.

A. Sequential

B. Random

C. Sequential and Random

D. None of the above

Q 3) Let x be an array. Which of the following operations are illegal?

I. ++x

II. x+1

III. x++

IV. x*2

A.I and II

B.I, II and III

C.II and III

D.I, III and IV

E.III and IV

Q 4) What is the maximum number of dimensions an array in C may have?

A.2

B.8

C.20

D.50

E. Theoretically no limit. The only practical limits are memory size and compilers.

Q 5) Size of the array need not be specified, when

A. Initialization is a part of definition

B. It is a declaration

C. It is a formal parameter

D. All of these

Q 6) What will be printed after execution of the following code?

```
void main()
{
  int arr[10] = {1,2,3,4,5};
  printf("%d", arr[5]);
}
```

A. Garbage Value

B. 5

C. 6

D. 0

E. None of these

Q 7) What will be the output of the following program?

```
void main()
{
    char str1[] = "abcd";
    char str2[] = "abcd";
    if(str1==str2)
        printf("Equal");
    else
        printf("Unequal");
}
```

A. Equal

B. Unequal

C. Error

D. None of these.

Q 8) What does the following declaration mean?

int (*ptr)[10];

A. ptr is array of pointers to 10 integers

B. ptr is a pointer to an array of 10 integers

C. ptr is an array of 10 integers

D. ptr is an pointer to array

Q 9) Array passed as an argument to a function is interpreted as

A. Address of the array.

B. Values of the first elements of the array.

C. Address of the first element of the array.

D. Number of element of the array.

Q 10) What will be the output of the program ?

```
int main()
{
   int arr[1] = {10};
   printf("%d", 0[arr]);
   return 0;
}
```

A. 1

B. 0

C. 10

D. 6

E. None of these

Q 11) If the two strings are identical, then strcmp() function returns

A. 1

B. 0

C. -1

D. true

E. None of these

Q 12) Which of the following statements are correct about an array?

1. The array int num[26]; can store 26 elements.

2. The expression num[1] designates the very first element in the array.

3. It is necessary to initialize the array at the time of declaration.

4. The declaration num[SIZE] is allowed if SIZE is a macro.

A. 1

B. 1, 4

C. 2, 3

D. 2, 4

E. None of these

Q 13) If the two strings are identical, then strcmp() function returns

A. 1

B. 0

C. -1

D. true

E. None of these

Q 14) The library function used to find the last occurrence of a character in a string is

A. laststr()

B. strstr()

C. strnstr()

D. strrchr()

E. None of these

Q 15) Which of the following function is used to find the first occurrence of a given string in another string?

A. strchr()

B. strrchr()

C. strstr()

D. strnset()

E. None of these

Q 16) Which of the following function is more appropriate for reading in a multi-word string?

A. scanf()

B. gets()

C. printf()

D. puts()

E. None of these

Q 17) What will be the output of the program ?

```
#include<stdio.h>
#include<string.h>
void main()
{
   char str1[20] = "Hello", str2[20] = " World";
   printf("%s\n", strcpy(str2, strcat(str1, str2)));
}
```

A. Hello World

B. World

C. WorldHello

D. Hello

E. None of these

Q 18) What will be the output of the program ?

```
#include<stdio.h>
void main()
{
   printf(5+"Good Morningn");
```

}

A. Good Morning

B. M

C. Good

D. Morning

E. None of these

Q 19) What will be the output of the program ?

```
#include<stdio.h>
#include<string.h>
void main()
{
   char str[] = "Exam\0Veda";
   printf("%s", str);
}
```

A. Exam

B. Exam Veda

C. Exam\0Veda

D. Veda

E. None of these

Q 20) Which of the following correctly accesses the seventh element stored in arr, an array with 100 elements?

A. arr[6]

B. arr[7]

C. arr{6}

D. arr{7}

E. None of these

Q 21) What is the return value of the following statement if it is placed in C program? strcmp("ABC", "ABC");

A. 33

B. -1

C. 1

D. 0

E. Compilation Error

Q 22) The function sprintf() works like printf(), but operates on .....

A. Data file

B. stderr

C. string

D. stdin

E. no such function in 'C'.

Q 23) String concatenation means -

A. Combining two strings.

B. Extracting a substring out of a string.

C. Partitioning the string into two strings.

D. Merging two strings.

E. Comparing the two strings to define the larger one.

Q 24) What will happen after compiling and running following code?

```
main()
{
    printf("%p", main);
}
```

A. Error

B. Will make an infinite loop.

C. Some address will be printed.

D. None of these.

Q 25) Use of functions

A. Helps to avoid repeating a set of statements many times.

B. Enhances the logical clarity of the program.

C. Helps to avoid repeated programming across programs.

D. Makes the debugging task easier.

E. All of the above

Q 26) Any C program

A. Must contain at least one function.

B. Need not contain any function.

C. Needs input data.

D. None of the above

Q 27) What is function?

A. Function is a block of statements that perform some specific task.

B. Function is the fundamental modular unit. A function is usually designed to perform a specific task.

C. Function is a block of code that performs a specific task. It has a name and it is reusable.

D. All of the above

Q 28) What will be the output of the program ?

```
main()
{
    int i = abc(10);
    printf("%d", --i);
}

int abc(int i)
{
    return(i++);
}
```

A. 10

B. 9

C. 11

D. None of these.

Q 29) The default parameter passing mechanism is

A. call by value

B. call by reference

C. call by value result

D. None of these.

Q 30) What will be the output of the program ?

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

A. 54544

B. 45445

C. 54554

D. 45545

Q 31) Pick the correct statements.

I. The body of a function should have only one return statement.

II. The body of a function may have many return statements.

III. A function can return only one value to the calling environment.

IV. If return statement is omitted, then the function does its job but returns no value to the calling environment.

A. I and II

B. I and III

C. II and III

D. II and IV

E. III and IV

Q 32) What will be the output of the following program code?

```
main()
{
    static int var = 5;
    printf("%d ", var--);
    if(var)
        main();
}
```

A. 5 5 5 5 5

B. 5 4 3 2 1

C. Infinite Loop

D. Compilation Error

E. None of these

Q 33) Which of the following is a complete function?

A. int funct();

B. int funct(int x) { return x=x+1; }

C. void funct(int) { printf(“Hello"); }

D. void funct(x) { printf(“Hello"); }

E. None of these

Q 34) What will be printed when this program is executed?

```
int f(int x)
{
  if(x <= 4)
    return x;
  return f(--x);
}
void main()
{
  printf("%d ", f(7));
```

}

A. 4 5 6 7

B. 1 2 3 4

C. 4

D. Syntax error

E. Runtime error

Q 35) The recursive functions are executed in a .....

A. Parallel order

B. First In First Out order

C. Last In First Out order

D. Iterative order

E. Random order

Q 36) The function scanf() returns .....

A. The actual values read for each argument.

B. 1

C. 0

D. The number of successful read input values.

E. ASCII value of the input read.

Q 37) Functions have .....

A. Local scope

B. Block scope

C. File scope

D. Function scope

E. No scope at all

Q 38) Which of the following function calculates the square of 'x' in C?

A. sqr(x)

B. pow(2, x)

C. pow(x, 2)

D. power(2, x)

E. power(x, 2)

Q 39) When a function is recursively called all the automatic variables are stored in a .....

A. Stack

B. Queue

C. Array

D. Linked list

E. Register

Q 40) The function that is invoked is known as

A. Calling function

B. caller function

C. called function

D. invoking function

E. None of the above

Q 41) Function declaration statement identifies a function with its

A. Name

B. Arguments

C. Data type of return value

D. All of these

Q 42) Which return type cannot return any value to the caller?

A. int

B. float

C. void

D. double

Q 43) Memory is allocated to the function when the function is

A. Declared

B. Defined

C. Called

D. Returned

Q 44) The default storage class of a local variable is

A. auto

B. static

C. register

D. extern

Q 45) Insert("XXXYYYZZZ",1,"PPP")=

A. PPPXXXYYYZZZ

B. XPPPXXYYYZZZ

C. XXXYYYZZZPPP

D. None of these

Q 46) Delete("XXXYYYZZZ",4,3)=

A. XXYZ

B. XXXYYZZ

C. XXXYZZ

D. None of these

Q 47) strcat() is defined in which of the header files?

A. ctype.h

B. stdio.h

C. string.h

D. math.h

Q 48) The index of U in Oxford University Press is?

A. 5

B. 6

C. 7

D. 8

Q 49) islower() is defined in which of the header files?

A. ctype.h

B. stdio.h

C. string.h

D. math.h

Q 50) strtof() is defined in which of the header files?

A. ctype.h

B. stdio.h

C. string.h

D. math.h

Q 51) Write a program to read and display n numbers using an array.

Q 52) Write a program to print the position of the smallest of n numbers using an array .

Q 53) Write a program to find the second largest number using an array of n numbers.

Q 54) Write a program to check whether the array of integers contains duplicate numbers and also delete all the duplicate numbers.

Q 55) Write a program to interchange the values of the odd and even positions of an array.

Q 56) Write a program to insert a new element in an user defined array at any desired position.

Q 57) Write a program to store even and odd elements of an array in two separate arrays.

Q 58) Write a program to cyclically permutate the elements of the array.

Q 59) Write a program to delete a number from a given location in an array.

Q 60) Write a program to display the reverse of an array.

Q 61) Write a program to input the elements of a 2-D array. Then from this array, make two arrays: one that stores all odd elements of the 2-D array and the other stores all even elements of the array.

Q 62) In a class there are 5 students. Each student is supposed to appear in 3 tests. Write a program using 2-D array to print

(I) the marks obtained by each student in different subjects.

(II) total marks and average obtained by each student.

(III) store the average of each student in a separate ID array so that it can be used to calculate the class average.

Q 63) Write a program to read and display a 3X3 matrix.

Q 64) Write a program for performing addition and subtraction of two matrices.

Q 65) Write a program to multiply two mxn matrices.

Q 66) Write a program to display the transpose of a matrix.

Q 67) Write a program that reads a matrix and displays the sum of its diagonal elements.

Q 68) Write a program to check whether a matrix is symmetric or not.

Q 69) Write a program to implement linear search in an array.

Q 70) Write a program to implement binary search in an array.

Q 71) Write a program to check a string is palindrome or not.

Q 72) Write a program to count the number of different characters present in a string. Finally sum up number of vowel, number of consonant, number of special character and number of digits.

Q 73) Write a program to find and display the maximum matched substring between two input string. Display the length of the substring.

Q 74) Write a program to display the word HELLO in the following format:

H

H E

H E L

H E L L

H E L L O

H E L L

H E L

H E

H

Q 75) Write a program to display the given string in reverse order.

Q 76) Write a program to read a name and display it in abbreviated form, for instance Hello World should be displayed as HW.

Q 77) Write a program to count the number of words in a given string.

Q 78) Write a program to enter a text that contains multiple lines. Display the n lines of text starting from the m^{th} line.

Q 79) Write a program to replace lowercase characters by uppercase & vice-versa in a given string.

Q 80) Write a program to count and display unique words in a string.

Q 81) Write a program to search a word and replace it by a specified word in a given string.

Q 82) Write a program to determine if one string is a circular permutation of another string.

Q 83) Write a program to extract the string "od Mo" from the given string "Good Morning".

Q 84) Write a program to check if graphic character occurs in a string and display the graphic character.

Q 85) Write a program to print the Upper and Lower triangular matrices from a given matrix.

Q 86) Write a program to store elements of Z sparse matrix in a 1-D array.

Q 87) Write a program to delete last character of a string.

Q 88) Write a program add, subtract, multiply, divide two numbers using functions.

Q 89) Write a program to swap the value of two variables using function.

Q 90) Write a program to find biggest of three numbers using functions.

Q 91) Write a program to convert time to seconds using functions.

Q 92) Write a program to sum the series - 1/1! + 1/2! + 1/3! + ...+ 1/n!

Q 93) Write a program to implement Euler's GCD using functions.

Q 94) Write a function to print the conversion table of degree Fahrenheit into Degree Celsius ranging from 32 to 212 degrees Celsius.

Q 95) Write a program that reads a square matrix of size n x n. Write a function int is_lower_triangular(int a[][]) that returns 1 if the matrix is lower triangular.

Q 96) Write a program to concatenate two strings using function.

Q 97) Write a program to compute F(x,y) where

F(x, y) = F(x-y, y)+1 if x>y

and F(x, y) = 0 if x<y

Q 98) Write a program to print all the twin prime numbers between a range. The upper and lower limit of the range will be passed as argument of this function.

Q 99) Write a program to compute exponent EXP(x,y) where

EXP(x, y) = 1, if y==0

and x X EXP(x, y-1) , otherwise

Q 100) Write a program to print fibonacci series using recursion.