## Q1. Short-answer type questions. (2 marks)

    i.    What is a computer system? Draw the block diagram of computer.
    ii.    What are basic data types supported by C language?
    iii.    How internet can be useful for the society? Explain its ill-effects?
    iv.    Differentiate between Real Time Operating System and Distributed Operating System.
    v.    Explain Conditional Operator with the help of example.
    vi.    What are the different transmission media available? Explain each with a neat diagram.
    vii.    What do you mean by Keywords in C language?
    viii.    What is the difference between compiler and interpreter?
    ix.    What is the difference between While and Do-While? Explain with the help of an example.
    x.    What are actual parameters and formal parameters? Explain with help of an example.
    xi.    Distinguish between Circuit Switching and Packet Switching in detail.
    xii.    What are network security tools? List some of them.
    xiii.    What is the meaning of LVALUE and RVALUE of variable?
    xiv.    What are actual parameters and formal parameters? Explain with help of an example.
    xv.    Explain strcmp() function with help of example?
    xvi.    What is a firewall and pointer?
    xvii.    Explain Multiuser, Multiprogramming and Multitasking OS?
    xviii.    Explain Full-Duplex Mode of Data Transmission?
    xix.    Explain star topology with the help of diagram?
    xx.    Differentiate between SRAM and DRAM.
    xxi.    What do you mean by volatile and non-volatile memory?
    xxii.    Explain difference between OSI and TCP/IP model.
    xxiii.    What is the difference between structure and union?
    xxiv.    Define Flowchart. Draw a flowchart to find out the largest of three numbers.

### SECTION-A

1.   Briefly discuss the generation of microprocessor. What was the technology Used in each generation?
2.   Differentiate between single user and multiuser operating system.
3.   Explain the working of Laser Printer.
4.   What is an operating system? What are the functions of an operating system?
5.   Write the Difference between UNIX and DOS?
6.   Write any five commands of DOS?
7.   Draw the block diagram of computer and explain its working.
8.   What do you mean by machine, assembly and high level languages? Discuss them critically.
9.   What do you mean by microprocessor? What are the different generations of microprocessor?
10.  What are Input/Output ports and connectors? Explain with the help of examples.
11.  What is an Operating System? What are its main functions? Explain.
12.  What do you mean by Peripheral Devices? Explain any four peripheral devices used in a computer.
13.  Write down salient features of UNIX Operating System.

**Dronacharya College of Engineering**

**Department of Applied Science and Humanities**

**Subject: FCPC**                                    **Subject Code:** CSE-101-F

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**SECTION-A**

Ques 2(a) On what basis computers are divided into generations? List the important characteristics of computers of    each generation.

2(b)   Explain in detail structure of UNIX and MS-DOS.

2(c) Explain the five most common used commands in DOS operating system?

2(d) What are the functions of operating system? Why do we use different operating systems?

Ques 3(a) Write short note on:

  i.   Various Input/output ports and connectors
  ii.  Dot Matrix and Laser printers

3(b) What is Operating System? What is the need of Operating System? And explain the types of OS.

3(c) Explain the concept of multiprocessing operating system.

3(d) Compare the characteristics of Windows and Unix operating systems.

3(e) what do you mean by input and output devices? Explain working of any three input or output devices.

Ques 4(a) Clearly mention the difference between:

  i.    Impact and Non-Impact printers
  ii.   primary memory and secondary memory
  iii.  Analog and Digital computer
  iv.   Coaxial cable and twisted pair
  v.    RAM and ROM

4(b) What are the various components of Central Processing Unit?

4(c) What do you mean by machine, assembly and high level languages? Discuss them critically.

4(d) What do you mean by microprocessor? What are the different generations of microprocessor?

## SECTION –B

Ques 5(a) What do you mean by OSI reference model? Explain functions of each layer.

5(b) What are different issues related with Network Security? Briefly discuss some.

5(c) Write the advantages, disadvantages of HLL, Low Level language & Assembly language.

5(d) What do you mean software? Write the difference between system software and application software?

Ques 6(a)  Explain network topologies.

6(b) Write short notes on

  i.   HTTP and its advantages

ii.     difference between LAN, WAN and MAN.
iii.    different ways of Data Communication
iv.    Switching Techniques

6(c)  Explain difference between OSI and TCP/IP model.

Ques 7 (a)  Explain in detail the E-mail System.

7(b) Explain DNS, TELNET, FTP.

7(c) What do you understand by linkers and loaders, explain their each type in detail/

7(d) Explain layers of TCP/IP model.

7(e)  What are the different transmission media available?

## SECTION – C

Ques 8 (a) Explain the following loops with their syntax: For loop, while loop, do-while loop, switch statement.

8(b) Write a program to generate the following series;

```
1
12
123
1234
12345
```

Ques 9(a) Write a C program for multiplication of two 3 X 3 matrices.

9(b) Write a C program for addition of two matrices.

Ques 10(a) Write a program which reverses and sums the digit of an integer.

10(b) What is the use of array? How they are stored in memory? Write a program to find the largest number and its position in an array of 50 numbers.

Ques 10(a). What is the advantage of structures over arrays? Declare a structure with the following member elements:

```
Employee-id, employee-name, employee-age, employee-salary,
employee-address.
```

Make an array of structures and read the data for 10 employees using for loop.

10(b). What are unions? What is the difference between a structure and a union?

10(c). Write a program that accepts two numbers a and b and prints out their sum, difference, product and quotient.

## SECTION - D

Ques 11(a) What do you mean by pointers? Explain the use of pointers with suitable programming example. Also explain Array of pointer and pointer to an Array with programming example.

11(b) WAP to clarify the concept of the two parameter passing methods: call by value and call by reference.

Ques 12(a) What are the various file operations? Explain them.

12(b) What do you mean by static and dynamic memory allocation in C.

Ques 13(a) What are the preprocessor directives? Explain in details.

13(b) Write short notes on the following:

   i.    Calloc and Malloc functions
   ii.   Declaring pointer variables
   iii.  Arrays of pointers
   iv.   Dynamic memory allocation
   v.    Initialization of pointer variables

13(c) WAP to count number of words, characters and lines in a file.

14. Briefly Describe Disk Operating System. Write down four internal and external commands of DOS.
15. Differentiate between Warm Booting and Cold Booting.
16. Explain the concept of multiprocessing operating system.
17. What are the various components of Central Processing Unit?
18. Explain Digitizers.
19. Explain the structure of MS-DOS.
20. Explain the features of Windows XP.
21. Differentiate Windows and Linux Operating System.
22. Explain evolution of computers.

## Section –B

1. What do you mean by OSI reference model? Explain functions of each layer.

2. What are different issues related with Network Security? Briefly discuss some.

3. Write the advantages, disadvantages of HLL, Low Level language & Assembly language.

4. What do you mean software? Write the difference between system software and application software?

5. Explain network topologies.

6. How Machine Language is different from the Assembly Language?

7. What is HTTP? Why it is used.

8. Exaplin the difference between LAN, WAN and MAN.

9. Explain the different ways of Data Communication.

10. Explain Switching Techniques in Networking.

11. Explain difference between OSI and TCP/IP model.

12. What do you mean by Hyper Text documents?

13.What do you mean by different types of network?

14. Explain in detail the E-mail System.

15. Explain DNS, TELNET, FTP.

16. Explain linker.

17. Explain loader.

18. Explain layers of TCP/IP model.

19. What is backbone network?

20. What are the different transmission media available?

21. How internet can be useful for the society? What are the drawbacks of network addiction?

## Section -C

1.What is the difference between While and Do-While? Explain with the help of an example.

2.What is a Switch Statement in C and what is its use?

3.Write a Program in C to find roots of Quadratic Equation.

4.What will be the output of following program. When i=5 and when i=10.

```
Void main()

{ int i;

Scanf("%d",&i);

If (i=5)

Printf('FIVE");}
```

5.Write a program to find the factorial of any number entered through the keyboard.

6.  What are the different data types used in C language?

7.Write a program to find out whether the no. entered through keyboard is prime or not.                    8. What will be the output of the following program?

```
void main()

{

        int i;

        while(i<=10);

        {

        printf("\n%d",i);

                i++;

        }

}
```

9. What do you mean by Character Arrays? Explain with example.

10. Write a program in 'C' to find out the second smallest and second largest number in the list.

11. Write a program in 'C' to print the first 10 multiples of a given number using the 'Do' loop.

12. Explain the Call by value and Call by reference method in detail.

13,Write a program in 'C' to check if a given number is a palindrome or not.

**14.** What do you mean by user defined function? Write a C program for calculating factorial of a number using recursion?

15.What is the difference between While and Do-While? Explain with the help of an example.

16.Write a C program for multiplication of 3X3 matrix?

17.Write a program using structure to gather all the information of all the books available in the library. The information must include the name of book, its publisher, date of purchase, price of the book, no. of copies available in the library.

18. Write a C program  for checking a string is palindrome or not   .

19. Write a C program for sorting an array in ascending order.

20. Write the difference between structure and union.

21. Explain how 1D and 2D arrays are stored in memory.

### Section –D

*1.*What is a file? What are the basic file functions used in C.

2.Explain with example

> *(1) Calloc*
>
> *(2) Malloc*
>
> *(3) Relloc*
>
> *(4) free*

3.What are the preprocessor directives? Explain in details.

4.Explain Command Line Arguments with the help of program?

5. What do you mean by Pointer variables? How we can declare in C language.

6. Write a C program to copy one file into another file.

7. Explain Pointer of Array in Detail.

8. What is an Array? How Arrays and Strings are related to each other? Explain with suitable programming example.

9. What do you mean by recursion? Write a recursive program to perform the Binary search.

10. When and why the exit() function is used in C program.

11. What are String Handling functions? Explain each of them in detail.

12. Explain the importance of using functions? Explain Call by Value and Call by Reference with the help of an example.

13. Explain how arrays are stored using pointers.

14. How the pointer gets incremented in integer array and character array?

15. Are the expressions *p++ and ++*P equivalent? Justify your answer.

16. Explain the "&" and "*" operator in detail with suitable example.

17. Write a program for Fibonacci series by recursion.

18. Differentiate between an array and an structure with a suitable example.

19. Declare a structure in C that can store length of cloth in meters, centimeters and millimeters.

20. Write a program for linear search in an array.