Branch :- First Year Common to All Branches   **Semester :- I & II**
Subject- Computer Programming

UNIT 1

1) Describe the essential characteristics of Computer.

2) Convert Binary to Decimal

$(10011)_2 = (\ )_{10}$

$(11011)_2 = (\ )_{10}$

$(0011.101)_2 = (\ )_{10}$

3) Explain classifications of computer in detail.

4) Explain input and Output devices in Detail.

5) Explain types of Computer software in detail.

6) Explain LAN,MAN,WAN and Internet.

7) Explain organization of computer system with neat labelled diagram.

8) Explain number system in detail.

9) Explain Decimal to Binary conversion with example.

10) Explain Hexadecimal to Binary in detail.

11) Explain Octal to binary with example.

12) Explain Logic Gates in detail with Example.

.13) Explain 1) CPU 2) Complier 3) Control unit 4) Software.

14) Convert following numbers to Decimal.

i) $(10101101)_2$ ii) $(5324)_8$ iii) $(6A11.3B)_{16}$

15) Explain different types of Programming Languages?

16) Perform the following Conversions -

i) Convert the Octal number 365.3 into its equivalent Decimal number.

ii) Convert the Hexadecimal number 9AF4.D6 into its equivalent Octal number.

iii) Convert Binary number 1100.101into its equivalent Hexadecimal number.

iv) Convert the Decimal number 859.36 into its equivalent Hexadecimal number.

17) Perform the following Conversions -

i) $(111011100.10101)2 = (?)8$

ii) $(1100111.10101)2 = (?)10$

18) Perform the following operations -

i) Add 14.2 with 17.4 in binary

ii) Subtract 17.4 from 24.2 with in binary

UNIT II

1) Explain Basic Structure of C programming.

2) Explain c programming life cycle in detail

3) Write Program to calculate interest rates where SI=(P*R*N/100)

4) Explain any 5 Math function

5) Explain C tokens in details. With example.

6) Explain Keyword, Identifier, variables in detail.

7) Explain Data types in details.

8) Explain declarations of variable in programming.

9) Explain different Storage classes in C.

10) Explain Escape sequence in Details.

11) Write a program to calculate area of circle.

12) Explain Formatted Input and Output Statement.

13) Explain C tokens in brief with example.

14) Write and describe a program for printing basic details of student such as
    Name, Roll_number, Section, Address, Mobile_No. , Email etc.

15) Write and describe a program for addition of three numbers.

16) Explain math functions with example.

17) Explain function floor ( ), round ( ), ceil ( ) with the help of example.

18) Explain function exp ( ), log ( ), max(a,b), min(a,b) with the help of example.

UNIT III

1) Explain Types of operators in detail.

2) Explain conditional operator with program

3) Explain bitwise operator with program

4) Explain Formatted input and output with program

5) What are different types of operators available in C?

6) Explain with example Assignment, Bitwise and special operator?

7) What do you mean by operator precedence? List the operator according to their precedence?

8) Explain the formatted functions with example?

9) What are the functions of printf( ) and scanf( )?

10) Explain with example arithmetic and logical operator?

11) Explain the unformatted functions with example:

      a) getchar( )   b) putchar( ) c) gets( ) d) puts( )

12) What is an escape sequence? What is its purpose?

13) Explain the meaning of following

      a) \b b) \r   c) \f   d) \n   e) \t

14) Write a program to interchange two numbers. A=36, B=63, alter A=63, B=36

15) What is output of following program –

```
a) #define CUBE(x) (x*x*x)
void main()
{ printf("%d",CUBE(5+5)); }
b) main()
{
int a=7;
printf("%d",a++);
printf("\n%d",a++*++a);
printf("\n%d",++a*++a);
}
```

16) Find the output of following program

```
void main()
{
int m=12345; long n=987654;
printf("%d\n",m);
```

```
        printf("%10d\n",m);
        printf("%010d\n",m);
        printf("%10ld\n",n);
        }
```

17) Explain arithmetic expression with the help of example?

18) Find the output of following program-

```
        #include<stdio.h>
        Void main()
        {
        float a , b, c , x , y , z;
        a = 9; b = 12; c = 3;
        x = a - b / 3 + c * 2 - 1;
        y = a - b / (3 + c ) * (2 - 1);
        z = a - (b / (3 + c) *2) - 1;
        printf("x = %f\n" , x );
        printf("y = %f\n" , y );
        printf("z = %f\n" , z );
        }
```

UNIT IV

1) Explain if,if-else and else if ladder with syntax and example.

2) Write a program using if else statement to find out even and odd number.

3) Write a program using if else statement to find out able to vote or not.

4) Write a program using if else statement to find out number entered my the user positive or negative.

5) Write a program using if else if ladder to find out greater of 3 numbers.

6) Write a program using if else if ladder to find out smaller of 3 numbers.

7) Write a program using if else if ladder to print weekdays based on given number.

8) Write a program using switch case statement to print days of the week.

9) Explain switch case statement with example.

10) Write a program using switch case statement to print months of the year.

11) What is the output of the following program

```c
#include <stdio.h>
int main()
{
    int i=2;
    switch (i)
    {
      case 1:
        printf("Case1 ");
      case 2:
        printf("Case2 ");
      case 3:
        printf("Case3 ");
      case 4:
        printf("Case4 ");
      default:
        printf("Default ");
    }
    return 0;
}
```

```c
12] #include <stdio.h>
int main()
{
    int i=5;
    switch (i)
```

```c
  {
    case 1:
      printf("Case1 ");
    case 2:
      printf("Case2 ");
    case 3:
      printf("Case3 ");
    case 4:
      printf("Case4 ");
    default:
      printf("Default ");
  }
  return 0;
}
```

13) What is the output of the following program

```c
#include <stdio.h>
int main()
{
  int num = 2;
  switch (num + 2)
  {
  case 1:
    printf("Case 1: ");
  case 2:
    printf("Case 2: ");
  case 3:
    printf("Case 3: ");
  default:
```

```
        printf("Default: ");
     }
     return 0;
}
```

14) Explain while and for loop statement in c with example.

15) Write a program using for loop to print your name 10 times.

16) Write a program in C to display the first 10 natural numbers using for loop

17) Write a C program to find the sum of first 10 natural numbers using while loop

18) Explain do-while statement in c with example and state difference between while and do-while.

19) What is decision making statement explain with the help of program?

20) Write a short note on iterative statement in c?

21) Explain the following statements :

      i) goto   ii) break.   iii) continue

22) Explain for, while and do while loop with example?

23) Write a program to calculate the factorial of an integer number?

24) What is the output of following program -

```
#include<stdio.h>
Void main()
{
 int flag =1;
 switch (flag)
 { case 1 : printf ("This is case 1 \n");
 case 2 : printf("This is case 2 \n");
 case 3 : printf("This is default \n");
 }
}
```

25) How many times does the following for loop will get executed?

     a. for(i=m;i<=n;i++)

     b. for(i=m; i<n;i++)

     c. for(i=m; i<n; i+=x)

26) What is the output of following program

```
#include<stdio.h>

void main()

{

int i=0,j=0;

for(i=0;i<5;i++)

{

for (j=0;j<4;j++)

{

if(i>1)

continue;

}

printf("Hi \n ");

}

}
```

27) What is the output of following program

```
void main()

{

int c, s=0,n;

n=6;

for(c=1;c<=n;c++)

{

s+=c;

}

printf("\n sum is %d",s);

}
```

Q28) What is the output of this program –

```
#include<stdio.h>

int main()

{
```

```
int a=5;
if (a == 6);
a = 0;
if (a == 5)
a++;
else
a += 2;
printf("%d", a);
return 0;
}
```

29) What is the output of this program

```
int main()
{
int a = 1, b = 0;
int c = a%2 ? a++ : a-- ? a=0 : ++b ? b = 2 : b++ ;
printf("%d", c);
return 0;
}
```

UNIT V

1) What is array? Explain one dimensional array with example.

2) Explain two dimensional array with example

3) Write a C program to read N integers into an array A and to find the

(i)sum of odd numbers,(ii) sum of even numbers,(iii) average of all numbers. Output the results

computed with appropriate headings

4) Write a C program to search an element using linear and binary techniques

5) Write a C program to find the sum and average of n integer numbers

6) Write a C program to find the largest element in an array

7) Define string. How string is declared and initialized ? Explain string input/output functions

with an example

8) What is string ? Write any 6 string functions with example.?

9) Define string. List out all string manipulation function. Explain any two with example

10) Explain string manipulation library functions with their syntaxes

11) How string is declared and initialized? Explain any four string manipulation functions with examples

12) Write a C program to check whether the given string is palindrome or not without using in built function

13) What is function ? Explain the difference between user defined and library functions

14) Explain initialization, declaration and representation of two dimensional arrays in memory of computer with its syntax and suitable example?

15) What do you mean by structures? Give syntax of structure definition?

16) How structure element is accessed? Explain it with example?

17) Explain the difference between a structure and an array?

18) Write a program to accept ten student's marks and find sum and average of total marks?

19) Write a program to accept 2D array elements and print that element?

20) Write a program for storing student information (roll number, name, and marks) using structure?

UNIT VI

1) What is function ? Explain the difference between user defined and library functions

2) Explain the different elements of user defined functions in detail

3) Explain function call, function definition and function prototype with examples

4) What is function? Write a function to find the sum of two numbers

5) Differentiate between call by value and call by reference with examples

6) What is function? Explain different classification of user defined functions based on parameter passing and return type with examples

7) Explain recursion. and write a program to find nth term of Fibonacci series

8) Write a C program to find the factorial of a number using recursion

9) What is structure? Explain the C syntax of structure declaration with example

10) What is pointer? Explain how the pointer variable declared and initialized?

11) What is a pointer? Write a C program to illustrate arithmetic operation using pointer

12) Write a C program to swap two numbers using call by address (pointers or reference) method

13) Write a C program to swap two numbers using call by address (pointers or reference) method

14) What do you mean by pointer? What kind of information does the pointer variable represent explain with example?

15) Write a program to calculate the factorial of an integer using recursion?

16) Explain the following in brief with syntax :

i) fprintf() &fscanf()

ii) fopen() &fclose()

iii) fwrite() &fread()

iv) fseek() &ftell()

v) putw()&getw()

vi) putc()&getc()

vii) feof() &rewind()

17) Write a program to count total number of characters in the file.

18) Find the output of following program:

```c
#include<stdio.h>
void main ()
{
char text [ ]="welcome";
int num [ ] ={10, 20, 30, 40, 50, 60, 70};
int i;
for(i=0;i<7;i++)
printf ("Element no % d value %c \n", i+1,*(text +i));
for(i=0; i<7;i++)
printf ("Element no % d value %d \n", i+1,*(num +i));
}
```