Section A
Attempt all questions (CCP MODEL PAPER-1)
IBC-CBT

Q1 C is a
(a) high level language
(b) low level language
(c) high level language with some low level features
(d) machine language.

Q2 Which of the following are true regardless of the implementa
(a) size of (int) is not less than size of (long)
(b) size of (short) equals size of (int)
(c) size of (int) equals size of (unsigned)
(d) size of (double) is not less than size of (float)

Q3 Choose the correct answers.
(a) An identifier may start with an underscore.
(b) An identifier may end with an underscore.
(c) IF is a valid identifier.
(d) The number of significant characters in an identifier is implementation dependent.

Q4 Printing a character as an integer.
(a) results in the printing of a negative integer.
(b) always prints a positive integer.
(c) prints a value that is implementation dependent.
(d) none of the above.

Q5 Which of the following comments about the ++ operator are correct?
(a) It is an unary operator.
(b) The operand can come before or after the operator.
(c) It cannot be applied to an expression
(d) It associates from the right.

Q6// The following program fragment

```
int K= -7;
Printf("%d", 0<!K);
```

(a) Prints 0 (b) Prints a non-zero value.

(c) is illegal (d) Prints an unpredictable value.

Q7// The following program fragment-

```
int a= 4, b= 6;
Printf("%d", a==b);
```

(a) output gives an error message (b) Prints 0

(c) Prints a non zero value (d) none of the above.

Q8// Consider the statement

```
int Val[2][4] = [1, 2, 3, 4, 5, 6, 7, 8];
```

4 will be the value of

(a) Val[1][4] (b) [Val[0][4]

(c) Val[1][1] (d) none of the above.

Q9// f tell

(a) is a function (b) gives the current position in the file

(c) can be used to find the size of a file (d) is meant for checking whether a given file exists or not.

Q10// The storage class static can be used to

(a) restrict the scope of an external identifier

(b) Preserve the exit value of variables

(c) Provide privacy to a set of functions

(d) none of the above.

Section B

Attempt any 3

Q1. Design a structure student-record to contain name, dateof birth and total marks obtained. The date structure should have the following 3 integer members day, month and year.

Develop a program to read the data for 10 students in a class and display them rank wise.

Q-2 Write a program using pointers to read an array of 10 integers and print its elements in reverse order.

Q-3. Write a program that transposes a m x n matrix. The main function provides for the values of m and n. The program should call a function to transpose the matrix.

Q-4 Write a program which reads a string and counts all occurances of a particular word. The word is entered through the keyword and so is the string and then the program prints the count.

Q-5 Write a program to create linked list and perform an operation of insertion of an element in a linked list in C.

Section C

Attempt any 2 parts from all the five questions

Q-1(A) Convert the following

(i) $(36.625)_{10} = (?)_2$

(ii) $(0.015625)_{10} = (?)_8$

(iii) $(5B.3A)_{16} = (?)_8$

(iv) $(46.57)_8 = (?)_{16}$

(v) $(01101110)_2 = (?)_{16}$

(B) (i) What is structured programming? What are its main advantage.

(ii) Write a algorithm to add up all the even numbers between 0 and 100. Before ending, print the result of the calculation.

(C) Write short note on

(i) System software & Application software

(ii) Time sharing operating system

(iii) Compiler & Interpreter

(iv) Linker & Loader

(v) Arithmetic logic unit (ALU)

Q-2 (A)(i) What is meant by operator precedence? what are relative precedences of arithmetic operator.

(ii) A program contains the following declaration and initial assignment

```
int i=8, j=5;
float x = 0.005, y = -0.01;
```

Determine the value of each of the following expressions use the values initially assigned to variables for each

expression.

(a) (2 * X + Y) == 0

(b) 2 * X + (Y == 0)

(c) (i > 0) && (j < 5)

(d) (i > 0) || (j < 5)

(e) y--

(B) (i) What are storage classes? Give the classification of storage classes.

(ii) What will be the output

```
main()
{
int a = 3, b;
b = a++ + ++a;
printf("a = %d, b = %d", a, b);
}
```

(C) (i) what is an expression? what kind of information is represented by an expression.

(ii) Explain the difference between Postfix & Prefix decrement operator. Show how it affects the result of an expression.

Q-3 (A) (i) What are functions? Explain the difference between iterative & recursive function calls.

(ii) What is recursion? Write a recursive function, int sum(int n) that returns:

2 + 4 + 6 - - - - + 2n

(B) What will be the output

```
#include <stdio.h>
main()
{
int i=0, x=0;
do {
   if (i%5==0) {
      x++;
    printf("%d", x);
   }
   ++i;
  }
 printf("\n x=%d", x);
}
```

(C) Why is the use of the go to statement generally discouraged? Under what conditions might the go to statement be helpful? what type of usage should be avoided and why? Discuss thoroughly.

Qu (A)(i) Find errors if in the following

```
int A[5][4];
float B[4];
for (i=1; i<=5; i++)
    for (j=1; j<=4; j++)
    A[i][j]=0;
```

(ii) What will be the output of the following

```
main()
{
char a[] = "hello world";
printf("%s", a+1);
}
```

(B)(i) What is the error in the following program?

```
struct
{
int number;
float price;
}
main()
 {
  - - -
  - - -
 }
```

(ii) what is wrong with the following

```
struct products
  {
   char name[10];
    float price;
  } PRODUCT products[10];
```

(C) (i) What are strings? How are they declared in C & how are they handled in C.

(ii) What is the significance of 'EOF'? How are files handled in C.

Q-5 (A) A program contains the following

```
int i, j = 25;
int *pi, *pj = &j;
```

```
*pj = j + 5;
i = *pj + 5;
i = *pj + 5;
pi = pj;
*pi = i + j;
```

what are values assigned to

(i) &i
(ii) *pj
(iii) i
(iv) pj
(v) pi + 2

(B) Explain the meanings of each of the following declarations

(i) int (*pf)(void);
(ii) char *d[4] = {"north", "South", "east", "west"};
(iii) double (*a)[12];
(iv) long *p[10][20];
(v) double funct (double *a, double *b, int *c)

(C) Distinguish between

(i) # define and # include

(ii) # include < filename > and # include "filename"

(iii) static and Dynamic searching

(iv) pointer and pointer utilization

(V) array and a structure