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53 (CS 101) ICPR

2021

**INTRODUCTION TO COMPUTER
PROGRAMMING**

Paper : CS 101

Full Marks : 100

Time : Three hours

**The figures in the margin indicate
full marks for the questions.**

Answer **any five** questions.

1. Answer in short : $2 \times 10 = 20$

(a) If c is a variable initialised to 1, how many times will the following loop be executed ?

```
while (( c>0) && ( c<60 ))  
{  
    c ++ ;  
}
```

(b) Write the output of the following statements :

```
for (i=1, j=10 ; i<6i ++i, --j)  
printf ("%d%d", i,j)
```

Contd.

- (c) Give the meaning of declaration statement

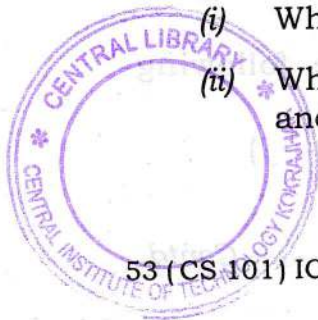
```
int * ptr ;
```

- (d) What are the use of getch() and putch() ?
- (e) What is the purpose of break statement? Give example.
- (f) Write the result of the following expression :
- $$4 + 6/3 * 2 - 2 + 7 \% 3$$
- (g) What are the differences between structure and union ?
- (h) What is an array ?
- (i) Explain the difference between variables and constants.
- (j) What is a static variable ?

2.

4×5=20

- (i) What is a flowchart ? Give example.
- (ii) What is the difference between while and do while loop ? Give examples.



- (iii) What are the basic data types available in C ?
- (iv) What is an algorithm ? Give example.
- (v) Write the syntax of for loop.

3. (i) Find the output of the following code segment (Justify your answer) : 5

```
# include <stdio.h>
main() {
int i = 1 ;
printf ("%d", i++ . +++i) ;
}
```

(ii) Write a C program to store N numbers of elements in a 2D array and display it. 5

(iii) What are the different types of operators in C language ? Explain all the operations with the help of suitable examples. 10

4. (i) Write a C program to multiply two matrix. 10

(ii) Write a C program to find the n -Fibonacci numbers. 10



5. (i) What is the difference between user defined function to find the length of a given string ? 10
- (ii) Write a program to find the sum of the series $S = 1 + x/1! + x^2/2! + x^3/3! + x^n/n!$ 10
6. (i) Write a program to input 10 'students' details as structure and display them. Structure fields (Rollnumber, branch, semester, mark1, mark2, mark3, total). 10
- (ii) Some text is sorted in a file (filename "text.txt"). Write a program to read the file and count the number of vowels and number of constants. 10

