Tribhuvan University
**Institute of Science and Technology**
2080
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Bachelor Level / First Year/ First Semester/ Science
**Computer Science and Information Technology (CSC115)**
(C Programming)
**(NEW COURSE)**

Full Marks: 60
Pass Marks: 24
Time: 3 hours.

*Candidates are required to give their answers in their own words as for as practicable.*
The figures in the margin indicate full marks.

## Section A

**Attempt any TWO questions.** **[2×10=20]**

1. Define structure and nested structure. Write a program to find out whether the $n^{th}$ term of the Fibonacci series is a prime number or not. Read the value of n from the user and display the result in the main function. Use separate user-defined function to generate $n^{th}$ Fibonacci term and to check whether that number is prime or not. [3 + 7]

2. Explain the relation to array and pointer. Differentiate between call by value and call by reference with a suitable program. [2+8]

3. Differentiate between source code and object code. Create a structure named Book with members Book_Name, Price and Author_Name, then take input for 10 records of Book and print the name of authors having the price of book greater than 1000. [3 + 7]

## Section B

**Attempt any EIGHT questions** **[8×5=40]**

4. Describe the different types of I/O functions used in file handling with syntax. [5]

5. Write a program to read P×Q matrix of integers and find the largest integer of each row and display it. [5]

6. Write a program to calculate the factorial of a given number using recursion. [5]

7. Write a program to check wheather the entered word is palindrome or not. [5]

8. List different types of operators and explain any three of them. [5]

9. Trace the output [5]

```
#include <conio.h>
#include <stdio.h>
void main()
    {
        int i=0, k;
      for (k=5;    k>=0;    k--)
          {
              i = i+k;
          }
      printf ("%d\t", i);
getch ();
}
```

10. Write a program to compute the sum of first 10 even numbers using function. [5]

11. What is dynamic memory allocation? Explain with a suitable program. [5]

12. Write a program to initialize an array of dimension 10 and sent the numbers within the array in ascending order. [5]