INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE – 247 667

(Autumn Semester 2017 – 18)

Fundamentals of Object Oriented Programming (CSN 103) **Assignment 7**

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1. Find the output of the following program using pointers

```
(1) main()
    {
       int a, *b, **c, ***d, ****e;
       a=10;
       b=&a;
       c=&b;
       d=&c;
       e=&d;
       cout<<a<<b<<c<<d<<e;
       cout<<a+*b<<**c+***d+****e;
    }
```

2. Write a function using pointers to find the Average and Median of *n* numbers. Validate your program using C++.

3. In an array of n elements write a C++ program to delete all the prime positions using pointers. For example if the given array is 1.23, 45.6, 23.2, 45.4, 99.2,35.4 then the resultant array should be 1.23, 45.4, 35.4.

4. Using pointers and arrays concept find the results for the following code

```
void main()
   {
    int c[ ]={2.8,3.4,4,6.7,5};
    int j,*p=c,*q=c;
    for(j=0;j<5;j++)
       {
         cout<<*c;
         ++q;
       }
    for(j=0;j<5;j++)
         {
           cout<<*p;
           ++p;
    }
   }
```

5. What will be the output for the following C++ codes

```
(a) #include <iostream.h>
void main()
{
          int a=5, *pa, &ra=a;
          pa = &a;
     //   ra = a;
     cout <<"a="<<a <<"*pa="<<*pa <<"ra="<<ra ;
}
```

6. Given an array of n elements. Insert a given number in the i^{th} position of the array where the starting position is zero. Use the concept of arrays and pointers.

7. Write the following function that is passed on array of `n` pointers to `floats` and returns a newly created array that contains those `n float` values in reverse order.

```
float* mirror(float* p[], int n)
```

8. Write a program that does the following:
   - Accept from screen the integer coefficients ***a***, ***b***, and ***c*** and the constant d of 3 linear equations in three variables, one line per equation.
   - Store the coefficients in a coefficient matrix which is declared as a *3 * 3* matrix and the constants (***d)*** in a one-dimensional constant array of 3 elements.
   - Find the solution of the system of equation using a method known to you and display the equations accepted and the computed solution.

9. What does the following fragment of C++-program print?

```
char c[ ]= "IITROORKEEOOP2018CSEECE";
char* p=c;
cout<<p+4[p]-9[p];
```