

Veer Surendra Sai University of Technology
Department of CSE & IT
Mid Term Examination March 2016
4th Semester B.Tech (ME,EE,EEE,PE,MME)
Sub: Object Oriented Programming

Max. Marks: 20

Time : 2Hrs.

Note: Q.No. 1 is Compulsory Answer any three from the rest of the questions

1. a) What are the features of OOP? [1X5]
b) What do you mean by dynamic initialization of variable? Give an example.
c) Define constructor. Write all the characteristics.
d) Find the output of the following code assuming that integers take 4 bytes:

```
#include<iostream>
using namespace std;
class Test
{
    static int i;
    int j;
};
int Test::i;
int main()
{
    Test obj;
    cout << sizeof(obj);
    return 0;
}
```

- e) Identify error in the following code.

```
#include <iostream.h>
class room
{
    int height, width;
    room(int h, int w )
    {
        height=h;
        width=w;
    }
};
int main ()
{
    room obj1;
    return 0;
}
```

2. a) Write a program to find the sum of squares of each of the digit of a 4-digit number. [2X2.5]
b) Write a program to swap two values between the classes using friend functions.
3. a) Design a class room having data member height, width and length. Calculate the area and volume of the room. Use parameterized constructor for initialization. Use copy constructor for calculating area of 2 more similar rooms. [3+2]
b) Briefly describe class and its access specifier.

[P.T.O]

4. Given that student class contains the following data member: student ID, student name, course name, subject name and subject code. Accept the marks obtained by each student and display whether she/he has passed or failed. Take above data for 'n' no. of students. [5]
5. a) An employee class has name, emp_code, and salary as its data members. Derive a class named as Income_tax having tax_rate, tax_deducted and net_salary as its data members. Calculate the net_salary using derived class object. Use private mode of inheritance. [3+2]

OR

Write a program to evaluate the following expression using operator overloading
 $obj1=obj2-7*obj3$

Where obj1, obj2, obj3 are the objects of class B. Display the content of the objects.

- b) Write a program to calculate area of a circle, square, rectangle using function overloading.
6. Write short notes on the following: [2X2.5]
- a) Inline functions
 - b) Static member functions

ALL THE BEST
