DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER VI [I.T.]
SUBJECT: (CT616) SOFTWARE ENGINEERING

Examination	**: THIRD SESSIONAL**	**Seat No.**	**:**
Date	**: 25/03/2014**	**Day**	**:**
Time	**: 12:45 to 2:00**	**Max. Marks**	**: 36**

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 **Do as directed.** **[12]**

(a) What do you mean by a façade? Explain with example. **[2]**

(b) Draw the CRC card for the time-table class. **[2]**

(c) List four desirable characteristics that a good user interface should possess. **[2]**

(d) Design the black-box test suite for a function that checks whether a character string(of up to 25 characters length) is a palindrome. **[2]**

(e) What is stress testing? Why is stress testing applicable to only certain types of systems? **[2]**

(f) What is the difference between the black-box testing and white-box testing? **[2]**

Q.2 Attempt ***Any TWO*** of the following questions. **[12]**

(a) List the important advantages and disadvantages of a command language interface. **[6]**

(b) Consider the following C function names sort. **[6]**

```
void sort(int a[], int n){
    int i, j;
    for(i=0;i<n-1;i++)
        for(j=i+1;j<n:j++)
            if(a[i]>a[j])
            {
                temp = a[i];
                a[i] = a[j];
                a[j] = temp;
             }
}
```

a) Determine the cyclomatic complexity of the sort function.

b) Design a test suite for the function sort using the following white-box testing strategies.
   1. Statement coverage
   2. Branch coverage

(c) What is meant by a code walk-through? List the important types of errors checked during code walk-throughs. **[6]**

Q.3 (a) Draw the Activity diagram for the following system: **[6]**
University department information system.

(b) Draw the state-chart diagram for the system defined above. **[6]**

OR

Q.3 (a) Draw the Activity diagram for the following system: **[6]**
Students' auditorium management software.

(b) Draw the state-chart diagram for the system given above in Q.3(a). **[6]**