DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
FIRST SESSIONAL EXAMINATION
SUBJECT: (CT616) SOFTWARE ENGINEERING

Examination	**: B.TECH - Semester - VI**	**Seat No.**	**:**
Date	**: 09/01/2018**	**Day**	**: Tuesday**
Time	**: 12:00 to 01:15 PM**	**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) List the important shortcomings of LOC for use as a software size metric. **[2]**

(b) Define exploratory style of program development. **[2]**

(c) "Spiral Model is a meta data model". Justify the statement. **[2]**

(d) What is system testing? Define the various types. **[2]**

(e) "As a project manager it would be worthwhile on your part to reduce the project duration by half provided the customer agrees to pay for the increased manpower requirements." State true or false. Justify the statement. **[2]**

(f) Give reason, which process model you follow for developing software for following applications? **[2]**
A new graphics editor.
Software that would provide, monitor and control cellular communication among its subscribers using a set of revolving satellites.

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

(a) Explain Prototype Data Model and provide suitable system where it can be applicable. **[6]**

(b) Suppose you are developing a software product in the organic mode. You have estimated the size of the product to be about 100K lines of code. Compute the nominal effort and the development time. Assume that average salary of software developers is Rs. 18000 per month. Also estimate the cost to develop product. **[6]**

(c) What is SPMP document. Who prepares it. Explain its layout in detail. **[6]**

Q.3 (a) Explain different types of the COCOMO model. Give an appropriate example. **[6]**

(b) What is function point metric. Consider a stock management system with customer, stock, order and payment modules. Calculate Function Point for it. Also give its pros and cons. **[6]**
NOTE: Clearly mention your assumptions.

OR

Q.3 (a) For the following C program, apply Halstead's technique to calculate length and volume measures. **[6]**

```
/*Program to calculate GCD of two numbers*/
int compute_gcd(x,y)
int x,y;
{
while(x!=y)
if(x>y) then x=x-y;
else y=y-x;
return x;
}
```

(b) Compare the different life cycle models from the view point of the customer. **[6]**