

Information Systems and Software Engineering

<u>Sl.No.</u>	<u>Name of the Topic</u>
1.	Requirement Analysis
2.	Project Integrations & maintenance
3.	Software Engineering
4.	Information Systems

Requirement Analysis

1) Which of the following is NOT desired in a good Software Requirement Specifications (SRS) document?

1 Marks GATE-CSE/IT-2011()

[A] Functional Requirements

[B] Non Functional Requirements

[C] Goals of Implementation

[D] Algorithms for Software Implementation

Key Paper

1. D

Project Integration & maintenance

1) A company needs to develop digital signal processing software for one of its newest inventions. The software is expected to have 40000 lines of code. The company needs to determine the effort in person-months needed to develop this software using the basic COCOMO model. The multiplicative factor for this model is given as 2.8 for the software development on embedded systems, while the exponentiation factor is given as 1.20. What is the estimated effort in person-months?

1 Marks GATE-CSE/IT-2011()

[A] 234.25

[B] 932.50

[C] 287.80

[D] 122.40

Key Paper

1. A

Software Engg

4) The following program is to be tested for statement coverage :

```
begin
if(a = b){S1; exit;}
else if(c = d){S2;}
else {S3; exit;}
S4;
end
```

The test cases T1, T2, T3 and T4 given below are expressed in terms of the properties satisfied by the values of variables a, b, c and d. The exact values are not given.

T1 : a, b, c and d are all equal

T2 : a, b, c and d are all distinct

T3 : a=b and c !=d

T4 : a !=b and c = d

Which of the test suites given below ensures coverage of statements S1, S2, S3 and S4?

2 Marks GATE-CSE/IT-2010()

[A] T1, T2, T3

[B] T2, T4

[C] T3, T4

[D] T1, T2, T4

Key Paper

1. B 2. B 3. C 4. D

1) A company needs to develop a strategy for software product development for which it has a choice of two programming languages L1 and L2. The number of lines of code (LOC) developed using L2 is estimated to be twice the LOC developed with L1. the product will have to be maintained for five years. Various parameters for the company are given in the table below.

Parameter	Language L1	Language L2
Man years needed for development	LOC / 10000	LOC / 10000
Development Cost per year	Rs. 10,00,000	Rs. 7,50,000
Maintenance time	5 years	5 years
Cost of maintenance per year	Rs. 1,00,000	Rs. 50,000

Total cost of the project includes cost of development and maintenance. What is the LOC for L1 for which the cost of the project using L1 is equal to the cost of the project using L2?

1 Marks GATE-CSE/IT-2011()

[A]4000

[B] 5000

[C]4333

[D]4667

Key Paper

1. **B**