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# SF-8349

## B. E. III (Sem. VI) (IT) Examination

**May / June – 2011**

## Software Engineering

*(New Syllabus)*

Time : **3** Hours] [Total Marks : **100**

**Instructions :**

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
**Fillup strictly the details of ☛ signs on your answer book.**

Name of the Examination :

☛ **B. E. 3 (Sem. 6) (IT)**

Name of the Subject :

☛ **Software Engineering (New)**

☛ Subject Code No. : **8 3 4 9** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) Use Separate answer sheet for each section.

(3) Make assumptions wherever required.

(4) Numbers on the right side indicate marks.

**1** (a) Do as directed : **10**

(1) Define following terms : (any **three**) **6**

(a) Software Engineering

(b) Class and object

(c) Cohesion

(d) Coupling

(2) State true or false : **2**

(a) Architecture can be defined as representation of overall structure of the system where various components are integrated. (T/F)

(b) Waterfall model is also known is _____ .

(3) Discuss Layered technology of software engineering. **2**

(b) Answer the following : **10**

(1) Define life cycle model. List life cycle models. Discuss any one model with proper example.

2 Answer the following : **15**

(1) Discuss control specifications and process specifications. **4**

**OR**

(1) List golden rules user interface design and discuss any one. **4**

(2) Define data flow diagram (DFD) and context level(level 0) DFD. List components used in DFD. Draw all possible levels of DFD for " Railway reservation system". **8**

3 Answer the following : (any **three**) **15**

(1) What are design concepts ?

(2) Discuss cardinality and modality.

(3) Define SRS. Prepare SRS for "Life Insurance Corporation of India".

(4) Discuss software engineering framework process.

4 (a) Do as directed : **10**

(1) Define following : (any **four**) **8**

(a) Stakeholders

(b) Metrics

(c) Line of code (LOC)

(d) Coding standards

(e) knot count

(2) Fill in the blanks : **2**

(a) _____ is planned and systematic pattern of activities to provide a high degree of confidence in the quality of product.

(b) _____ estimate the cost and schedule of the project.

(b) Answer the following : **10**

(1) Define UML. Draw use case diagram and sequence diagram for "ATM transaction system".

5 Attempt any **three** : **15**

(1) For the following piece of code : **10**

(i) draw the flow-graph ;

(ii) find the number of predicate notes ;

(iii) find the basis set of linearly independent paths ;

(iv) calculate the cycomatic complexity

```
int n1, n2;
printf("Enter lower limit");
scanf("%d", &n1);
printf("Enter upper limit");
scanf("%d", &n2");
for(i=n1; i<=n2;i++)
{
      if(i%3==0||i%7==0)
      {
       if(!(i%3==0&&i%7)==0)
       print("%4d",i);
      }
}
end
```

(2) Discuss COCOMO model for software estimation. **5**

**OR**

(2) Discuss intermediate model for software estimation. **5**

6 Attempt any **three** : **15**

(1) Differentiate proactive and reactive risks.

(2) Explain $W^5HH$ principle.

(3) Discuss software quality standards ISO 9000 and 9001.

(4) Discuss unit testing.

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