T.E. IT. Nov-Dec-2011
Sem-I 2008 Pattern

[4063] – 355

T.E. (IT) (Semester – I) Examination, 2011
SOFTWARE ENGINEERING
(2008 Pattern) (New)

Time : 3 Hours Max. Marks : 100

Instructions :
1) *Answer **3** questions from Section **I** and **3** questions from Section **II**.*
2) *Answers to the **two** Sections should be written in **separate** books.*
3) *Neat diagrams must be drawn **wherever** necessary.*
4) *Black figures to the **right** indicate **full** marks.*
5) *Assume suitable data, if necessary.*

SECTION – I

1. a) Explain software engineering as a layered technology. **8**

   b) Explain extreme programming with an example. **6**

   c) Consider a system where the stakeholders have a general idea of what the system should do but are unsure of specific software requirements. Write a process pattern for the same. **4**

   OR

2. a) Explain concurrent development model with an example. **6**

   b) Which software process model should be used for the following projects ? Justify your answer. **6**
      i) Office automation system
      ii) A flight control system $\bar{c}$ extremely high reliability.
      iii) An online book store.

   c) Are the unified process and UML related ? Explain. **6**

3. a) Explain the requirements elicitation phase in detial in requirements engg. **8**

   b) Consider the automation of a warehouse which includes : **8**
      i) Accepting and processing orders
      ii) Shipping orders
      iii) Accounting
      iv) Inventory mgmt.

      Develop an use case diagram for the system.

   OR

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4. a) The analysis model repts. a snapshot of the system. Justify. 8

   b) For the system in Q. 3 b) Identify the analysis classes and draw the class diagram with relevant relationships between classes. 8

5. 1) Explain the following design concepts : 8
      i) Modularity
      ii) Information hiding
      iii) Refinement
      iv) Refactoring.

   2) With examples explain data design elements and architectural design elements. 8

OR

6. 1) In detial list the various diagrams that make up the design model of any system. 8

   2) Explain the various components of an activity diagram and draw one for any activity of an ATM system. 8

SECTION – II

7. 1) Compare and contrast integration testing for conventional and object oriented software. 8

   2) Explain loop testing for different types of loops. 8

OR

8. 1) For the given code, draw the flow graph, identify all the independent program paths from the flow graph and calculate the cyclomatic complexity from the flow graph. 10

```
arr-sum (arr, size, sum)
{       sum = 0 ;
        i = 1;
  while (i< = size)
    {   If (arr [i] > 0) sum = sum + arr [i];
        i = i + 1;
    }
}
```

   2) Explain orthogonal array testing as a type of black box testing. 6

9. 1) Explain the W^5HH principle. **6**

2) List and explain how web application project metrics help in measuring quality of web applications. **6**

3) For a library management system, calculate the estimated value of function point. **6**

OR

10. 1) Explain with examples the terms measure, measurement, metric and indicator w.r.t. project metrics. **6**

2) Explain the types of metrics used to ensure quality of a system, application or product. **6**

3) Write a note on use-case based estimation. **6**

11. 1) Explain the different types of risks involved in any software system. **6**

2) With a neat diagram explain a task network for concept development. **6**

3) Write a note on version control. **4**

OR

12. 1) Write a note on RMMM plan. **4**

2) Explain the SCM process in detail. **6**

3) Explain the various steps involved in change control process. **6**
