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Code No. : 31103

**VASAVI COLLEGE OF ENGINEERING (*Autonomous*), HYDERABAD**  
**B.E. (C.S.E.) III Year I-Semester (Main) Examinations, Nov./Dec.-2016**

**Software Engineering**

Time: 3 hours

Max. Marks: 70

*Note: Answer ALL questions in Part-A and any FIVE from Part-B*

***Part-A (10 × 2 = 20 Marks)***

1. 'Software does not wear out but deteriorates'. Justify.
2. What is an agile process?
3. What is the use of requirements traceability tables in change management process?
4. List two principles of good design.
5. What is structural modeling in UML?
6. Differentiate composition and aggregation.
7. Construct a use case model which uses generalization relationships of UML.
8. What are the uses of component diagram?
9. Write the different metrics for maintenance.
10. Differentiate alpha testing and beta testing.

***Part-B (5 × 10 = 50 Marks)***  
***(All bits carry equal marks)***

11. a) What process adaptations are required if the prototype will evolve into a deliverable system or product?  
b) What is Unified process model? Explain the different phases of Unified Process model.
12. a) Explain the various tasks of requirement engineering process.  
b) What is modularity? Discuss the relation between modularity and software cost with a graph.
13. a) What is Association? Explain 'role' and 'multiplicity' with examples and necessary UML notations.  
b) Construct the class diagram for 'Hospital Management System'.
14. a) How will you model the distribution of objects using UML? Explain with an example.  
b) Explain dynamic modeling using state chart diagram for 'telephone call' scenario.

15. a) What is debugging? Discuss different debugging strategies.
- b) Draw the control flow chart for the following 'C' function, calculate the cyclomatic complexity and list different linearly independent paths for the basis path testing from control flow graph.

```
int gcd(int n1,int n2)
{
    while(n1!=n2)
    {
        if(n1 > n2)
            n1 -= n2;
        else
            n2 -= n1;
    }
    return(n1);
}
```

16. a) Which process model will you select for a 'web application' project and why?
- b) What is the impact of high staff turnover on software project? Discuss the RMMM plan for high staff turnover problem.
17. Write short notes on any *two* of the following:
- Building blocks of UML
  - Sequence diagram in UML
  - Metrics for Source code.

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