Register Number:……………………..

B.E DEGREE EXAMINATIONS: NOV/DEC 2014

Fifth Semester

COMPUTER SCIENCE AND ENGINEERING

CSE113: Software Engineering

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Software deteriorates rather than wears out because

    a) Software suffers from exposure to hostile environments

    b) Defects are more likely to arise after software has been used often

    c) Multiple change requests introduce errors in component interactions

    d) Software spare parts become harder to order

2. Which property of the rapid prototype is <u>not</u> important?

    a) The speed with which it can be developed

    b) The speed with which it can be modified

    c) Its ability to determine the client's real needs

    d) The insights that the design team can gain from it, even if they are of the 'how not to do it' variety

3. The requirements change over time is referred as _____.

    a) problem of scope

    b) problem of understanding

    c) problem of volatility

    d) problem of business

4. Scenario based model is mostly used to draw _____.

    a) use case diagram

    b) state diagram

    c) sequence diagram

    d) activity diagram

5. _____ design translates the data objects defined in the analysis model into data structures that reside within the software.

    a) data

    b) procedural

    c) module

    d) functional

6. Which of the following statement is not correct?

a) Coupling in a measure of interconnection among modules.

b) A cohesive module performs a single task within software procedure.

c) Fan-out indicates how many modules directly control a given module.

d) For effective modularity, need to minimize structures with high fan-out & strive for fan-in as depth increases

7. Which best captures the nature of the quality paradigm?

a) The Nature of Quality, A Process Perspective, Defect Elimination

b) Process, Product, People, Problem

c) Measurement, Quality Control, Validation

d) Feasibility, Requirements, Economics, Customer's Needs

8. For a function of two variables, boundary value analysis yields

a) $4n + 3$ test cases

b) $4n + 1$ test cases

c) $n + 4$

d) None of the above

9. Which of the following items should **not** be included in the software project management plan?

a) The techniques and case tools to be used

b) Detailed schedules, budgets and resource allocations

c) The organizational structure of the development organization, project responsibilities, managerial objectives and priorities

d) None of the above.

10. Changes made to an information system to add the desired but not necessarily the required features is \ are called_____.

a) Preventative maintenance

b) Adaptive maintenance

c) Corrective maintenance

d) Perfective maintenance

PART B (10 x 2 = 20 Marks)

11. What is the IEEE definition of Software Engineering?

12. Outline the meaning of "Extreme Programming"?

13. What are the Requirements Engineering Process Functions?

14. What is the performance of CRC model?

15. What are the characteristics of good design?

16. Compare Cohesion and Coupling.

17. Compare Verification with Validation.

18. Define Smoke testing.

19. List any two approaches to handle the Software sizing problem.

20. Compare "Known Risks" with "Predictable Risks"?

PART C (5 x 14 = 70 Marks)

21. a) Explain iterative waterfall and spiral model for software life cycle and various activities in each phase.

(OR)

b) (i) Explain in detail about XP Process. (7)

(ii) Analyze the advantages of Agile method in your own words. (7)

22. a) Explain various elicitation techniques and their problems used in software development process in detail.

(OR)

b) Explain about the following with suitable examples

(a) Use Case Diagram (5 Marks)

(b) State Diagram (5 Marks)

(c) Activity Diagram (4 Marks)

23. a) (i) What do you mean by Functional Independence? Explain the concept of refactoring. (7)

(ii) What is a modular system? List the important properties of a modular system. (7)

(OR)

b) (i) Consider the following scenario: (7)

EZ Videos is the local video store. To borrow Videos or DVD's, a customer must first apply for a membership card by completing an application form and providing identification. When hiring items, the customer presents the items together with their membership card to the clerk. The clerk then totals their rental. The customer pays the rental and is issued a receipt that includes the return date for the items. Items rented are recorded on the customer's record. If the items are overdue a notice is placed on the customer records and the customer must pay a late fee the next time they borrow an item. A monthly report, together with the receipts for the daily banking from the store, is sent to

the accounting department listing the monthly rentals and any late items outstanding.

Construct a context level DFD and DLD Level -1.

       (ii)   Explain coupling. Summarize various types of coupling.   (7)

24. a) (i)   Outline about Software testing. Explain about reliability and availability.   (7)

        (ii)   Compare white box testing with that of black box testing.   (7)

(OR)

    b) (i)   Compare among Error/Fault/Failure.   (7)

        (ii)   Outline the Objectives of SCM Process?   (7)

25. a) (i)   Summarize the importance of measurement in Software Development   (6)

        (ii)   Explain Object oriented and Use case oriented metrics.   (8)

(OR)

    b) (i)   What do you mean by Software Reengineering? Explain the needs of it. State the difficulties in it.   (7)

        (ii)   Outline the concept of COCOMO Model.   (7)

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