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Register Number: ………………..

B.E DEGREE EXAMINATIONS: MAY 2015

(Regulation 2009)

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. Which of the items listed below is not one of the software engineering layers?

   a) Process   b) Manufacturing   c) Methods   d) Tools

2. Which of these are the 5 generic software engineering framework activities?

   a) communication, planning, modeling, construction, deployment

   b) communication, risk management, measurement, production, reviewing

   c) analysis, designing, programming, debugging, maintenance

   d) analysis, planning, designing, programming, testing

3. Three things that make requirements elicitation difficult are problems of

   a) Budgeting, scope, understanding   b) Scope, understanding, volatility

   c) Volatility, scope, budgeting   d) Budgeting, understanding, volatility

4. The relationships shown in a data model must be classified to show their

   a) Cardinality   b) Directionality   c) Label   d) Process

5. A design should have _____ cohesion and _____ coupling.

   a) High, Low   b) High, high   c) Low, high   d)Low, low

6. Which design is analogous to the floor plan of a house?

   a) Architectural design   b) Component level design

   c) Data design   d) Interface design

7. The type of testing that does not execute the code is called

   a) Manual testing   b) Static testing

c) Dynamic testing   d) Referential testing

8. A new_____ is defined when major changes have been made to one or more

   configuration objects.

   a) Entity   b) Item   c) Variant   d) Version

9. Which of the following is not an element of project planning?

   a) Setting baseline project plan

   b) Identifying and assessing risk

   c) Determining project standards and procedures

   d) Establishing management procedures

10. Software risk always involves two characteristics

    a) Fire fighting and crisis management   b) Known and unknown risks

    c) Uncertainty and loss   d) Staffing and budget

PART B (10 x 2 = 20 Marks)

11. Software Engineering is a layered technology. Justify.

12. List the task regions in spiral model.

13. Mention the tasks in requirement engineering.

14. Why requirements elicitation is difficult? Justify

15. Are abstraction and refinement the same concepts? If not, how they differ?

16. Specify the different levels of design while translating analysis to design.

17. How to compute the cyclomatic complexity?

18. Differentiate between validation and verification.

19. Classify the software cost estimation methods.

20. Differentiate known risk & unknown risk.

PART C (5 x 14 = 70 Marks)

21. a) Describe a process framework activity. When we say that framework activities are

       applicable to all projects, does this mean that the same work tasks are applied for

       all projects, regardless of size and   complexity? Explain.

                                      (OR)

b) Sketch a neat diagram and explain the Waterfall and Spiral model for software life cycle and discuss various activities in each phase.

22. a) List the seven distinct tasks in requirement engineering. Explain the each task with an example.

(OR)

b) (i) Illustrate an use case diagram for an ATM operations scenario. (6)

(ii) Illustrate an activity & sequence diagram for the hospital management system operations like (Doctor Activity, patient, billing, appointment etc). (8)

23. a) i) Mention the design concepts to be included in a data design framework. Explain any four with an example of the various design concepts. (7)

ii) Design model can be viewed into two dimensions. Justify your answer with a neat diagram where ever required. (7)

(OR)

b) i) Functional Independence is achieved by developing modules with "Single mined "function. What are the criteria used to assess the functional independence? List the criteria and explain. (10)

ii) Develop two additional design principles that "reduce the user's memory load". (4)

24. a) What is basis path testing? Explain with an example of various strategies for basis path testing.

(OR)

b) (i) List and describe the four elements of a configuration management system. (6)

(ii) Describe the role of repository in SCM. (8)

25. a) (i) List the seven principle of Risk Management and describe with an example. (7)

(ii) Explain about any software cost estimation model with an example. (7)

(OR)

b) Compare and contrast size oriented and function oriented metrics with an example.

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