KUMARAGURU
college of technology
character is life

Register Number: ………………..

B.E DEGREE EXAMINATIONS: MAY 2015

(Regulation 2013)

Fourth Semester

COMPUTER SCIENCE AND ENGINEERING

U13CST402: 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.   Agile Software Development is not based on_____

3.   Which one of the following is not a step of requirement engineering?

    a)   elicitation   b)   design

    c)   analysis   d)   documentation

4.   The feature of the object oriented paradigm which helps code reuse is_____.

5.   In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project.

6.   The importance of software design can be summarized in a single word as_____.

7.   In size oriented metrics, metrics are developed based on _____.

8.   What is the normal order of activities in which software testing is organized?

    a)   unit, integration, system, validation   b)   system, integration, unit, validation

    c)   unit, integration, validation, system   d)   Verification, integration, unit testing

9.   What is related to the overall functionality of the delivered software?

    a)   Function-related metrics   b)   Size-related metrics

    c)   Product-related metrics   d)   Defect -related metrics

10.   When does one decide to re-engineer a product?

    a)   when system crashes frequently   b)   when tools to support restructuring are disabled

    c)   subsystems of a larger system require few maintenance   d)   when hardware or software support becomes obsolete

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. What are the gains from using generic software products?

12. How does the risk factor affect the spiral model of software development?

13. Define data modeling.

14. What is the use of data dictionary?

15. List down the key characteristics to have of good software design.

16. Define patterns in software engineering.

17. Differentiate testing and debugging.

18. Define software quality?

19. How is estimation of software cost done?

20. Define software project scheduling.

PART C (5 x 14 = 70 Marks)
(Not more than 400 words)

Q.No. 21 is Compulsory

21. a) (i) Justify why spiral model is most effective of the available software engineering (7) paradigms.

    (ii) What do you mean by computer based systems? Explain why they play an (7) important role in the software engineering discipline.

22. a) List down the various tasks involved in the requirement engineering. Explain with the suitable examples.

    (OR)

    b) Consider a scenario of library operation in your institute where all students, faculty, alumni can access the library. Construct the following diagrams in respective to the object oriented modeling techniques.

       i.   Class models   (5)

       ii. Use case model   (5)

       iii. Sequence model   (4)

23. a) Why user interface design is believed to be important task in the software development process? Describe briefly on the user interface designing steps followed in the software development process.

b)   Mention the need and benefits in creating reusable components during software development process. Also explain how patterns and frameworks are used in achieving reusability in software development. Explain with an example.

24.   a)   (i)   How could you differentiate the Execution and Non-Execution based testing   (7) process? Explain the steps involved in the Non-Execution based testing process with the suitable example.

       (ii)   Identify the steps that are followed in the black-box testing and discuss how   (7) black box testing is performed.

(OR)

b)   How will you use capability maturity model (CMM) in software projects? Explain in detail.

25.   a)   (i)   Explain the various tasks involved in the project monitoring and control activity.   (7)

       (ii)   Why do we need to have a maintenance phase of the software engineering   (7) process? List and explain the various activities performed during the maintenance phase.

(OR)

b)   How do you estimate the cost for the software you have developed? Evaluate your cost through COCOMO model.

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