Reg. No. :

Question Paper Code: 43206

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Third Semester

Computer Science and Engineering

14UCS306 - SOFTWARE ENGINEERING

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. In the spiral model 'risk analysis' is performed

    (a) in the first loop   (b) in the first and second loop
    (c) in every loop   (d) before using spiral model

2. A COCOMO model is

    (a) common cost estimation model   (b) constructive cost estimation model
    (c) complete cost estimation model   (d) comprehensive cost estimation model

3. Which of the following is not a diagram studied in requirement analysis?

    (a) Use Cases   (b) Entity Relationship Diagram
    (c) State Transition Diagram   (d) Activity Diagram

4. The SRS is said to be consistent if and only if

    (a) its structure and style are such that any changes to the requirements can be made
        easily while retaining the style and structure
    (b) every requirement stated therein is one that the software shall meet
    (c) every requirement stated therein is verifiable
    (d) no subset of individual requirements described in it conflict with each other

5. Structured charts are a product of

    (a) Requirements gathering   (b) Requirements analysis

    (c) Design   (d) Coding

6. The desired level of coupling is

    (a) Control coupling   (b) Common coupling

    (c) Data coupling   (d) No coupling

7. The main purpose of integration testing is to find

    (a) Design errors   (b) Analysis errors

    (c) Procedure errors   (d) Interface errors

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

    (a) 4n +3 test cases   (b) n + 4 test cases

      (c) 4n +1 test cases   (d) None of the above

9. Which is not a size metric?

    (a) LOC   (b) Program length

      (c) Function count   (d) Cyclomatic complexity

10. Which of the following is not a process metric?

    (a) Productivity   (b) Functionality

    (c) Quality   (d) Efficiency

PART - B (5 x 2 = 10 Marks)

11. Define software engineering process.

12. Distinguish between User Requirements and System Requirements.

13. List out the various elements of data design.

14. Distinguish between black box testing and white box testing.

15. List out the types of project plan.

PART - C (5 x 16 = 80 Marks)

16. (a) Explain the linear software life cycle model with neat diagram. Bring out the merits and demerits of this model. (16)

Or

(b) (i) A company needs to develop digital signal processing software for one of its newest inventions. The software is expected to have 40000 lines of code. The company needs to determine the effort in person-months needed to develop this software using the basic COCOMO model. The multiplicative factor for this model is given as 2.8 for the software development on embedded systems, while the exponentiation factor is given as 1.20. What is the estimated effort in person-months? (6)

(ii) What are the various categories of risks? Discuss about the overview of risk managements. (10)

17. (a) (i) Explain about any two Requirement Elicitation Methods. (10)

(ii) Discuss about functional and non-functional requirements. (6)

Or

(b) Explain in detail about software document. (16)

18. (a) What is transform mapping? Explain the process in detail. (16)

Or

(b) Describe the important principles and steps of user interface analysis and design. (16)

19. (a) Explain in detail about black box testing with suitable example? Explain about Equivalence class partition and boundary value analysis. State the comparison between these methods. (16)

Or

(b) Explain in detail about integration testing process and system testing process. (16)

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20. (a) What are the metrics used for estimating cost? Discuss in detail about the COCOMO model in cost estimation of the software? (16)

Or

(b) Explain briefly about various software risks. Draw the flow chart of risk management-activity. (16)

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