

1. A store is in the business of selling paints and hardware items. A number of reputed companies supply items to the store. New suppliers can also register with the store after providing necessary details. The customer can place the order with the shop telephonically. Or personally. In case items are not available customers are informed. The detail of every new customer is stored in the company's database for future reference. Regular customers are offered discounts. Additionally, details of daily transactions are also maintained. The suppliers from time to time also come up with attractive schemes for the dealers. In case, scheme is attractive for a particular item, the store places order with the company. Details of past schemes are also maintained by the store. The details of each item i.e. item code, quantity available etc. is also maintained. Draw DFD up to level 2 and Use case for the above requirement

Category: Se, Sub Category: Se, Marks: 6, Type: Subjective, Difficulty: Medium

2. Compute function point value for a project with the following domain characteristics: No. of I/P = 40 No. of O/P = 50 No. of user Inquiries = 24 No. of files = 8 No. of external interfaces = 2 Assume that all the complexity adjustment values are average.

Category: Se, Sub Category: Se, Marks: 6, Type: Subjective, Difficulty: Medium

3. What is cohesion and coupling? Explain the classification of cohesion and coupling.

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4. Explain the concept of Component based Software engineering (CBSE). What are the essentials? What are the design principles?

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5. Suppose an organization mentions in its job advertisement that it has been assessed at level 3 of SEI CMM, what can you infer about the current quality practices at the organization? What does this organization have to do to reach SEI CMM level 4?

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6. Explain how the project manager would carry out the risk analysis? What would be the outcome of the risk analysis? How would the outcome of your analysis be used to manage the risk?

Category: Se, Sub Category: Se, Marks: 5, Type: Subjective, Difficulty: Hard

7. Distinguish between error and failure in terms of Software Defect? Which of the two is detected by Software testing? Justify your answer. Is it possible to test the software exhaustively? Justify your answer.

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8. Show how the failure curve of software differs from that of hardware. Software doesn't wear out but it deteriorates due to change. Justify

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9. Define software maintenance. What are the different types of maintenance that a software product might need? Explain with example.

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10. What do you mean by CASE? List out the benefits of CASE and CASE tools.

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11. A student comes to a library for borrowing book. The student makes the book request giving book title and author name. The students have to submit his library card to the library. Sometimes student may simply give topic and demand for a book. The library information system maintains list of authors, list of titles, list of topics. This system also keeps record of topics on which books are available with the system. This system maintains information about shelf number on which books are located. Finally, the list of demanded book should be displayed, on the console for ease of selection. Draw E-R diagram, Sequence Diagram, Activity Diagram.

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12. Name the risk-based software development process model. Compare its advantages and disadvantages in keeping eyes with all other methods.

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13. The requirements model as a bridge between the system description and the design model. Justify. OR Mention all the analysis rules of thumb.

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14. Explain Boehm's W5HH Principle OR Define the term: error, fault and failure and describe how they relate to each other.

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15. What are the major goals of SQA? List the SQA tasks that need to be performed by SQA group. What are the effective methods to ensure the success of SQA? OR State the essential features of ISO 9000 certification. Write down the merits and demerits of ISO 9001:2000 certification.

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16. Is it ethical for a software engineer to agree to deliver a software system with known faults to a customer? Does it make any difference if the customer is told of the existence of these faults in advance? Would it be reasonable to make claims about the reliability of the software in such circumstances? OR Is it possible to test the software exhaustively? Can anyone guarantee that the product delivered is 100% error free even after thorough testing? Justify your answer.

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17. Justify the statement – Design is not coding and coding is not design. OR To achieve agility, a set of agility principles needs to be followed. If yes, mention the agility principles. If no, justify the answer.

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18. Draw the control flow graph for the following function. From the control flow graph, determine its cyclomatic complexity. `int f1(int x,int y)`
`{ while (x != y) { if (x>y) then x=x-y; else y=y-x; } return x;`

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19. As a test manager you will be getting delayed delivery of build for testing which has to be deployed on time. You have limited resources. By applying which measures are you able to perform testing in given time?

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