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10MCA42

Fourth Semester MCA. Degree Examination, Dec.2014/Jan.2015
Software Engineering

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

1. a. Define Software Engineering. Describe the essential attributes of a good software. (06 Marks)
b. Discuss the professional responsibilities of a software engineer. (06 Marks)
c. Define system design. With a neat diagram, explain the various activities involved in the system design process. (08 Marks)
2. a. Explain the component – based software engineering process model and state its advantages. (10 Marks)
b. With a neat diagram, explain the salient features of the spiral development model. (10 Marks)
3. a. What are non – functional requirements? With the help of a neat diagram show the classification of different types of non – functional requirement. (10 Marks)
b. Briefly describe the various techniques used in the requirement discovery process. (10 Marks)
4. a. Mention different types of system models based on different approaches to abstraction and draw a DFD modeling data processing involved when a customer withdraws cash from an ATM. (10 Marks)
b. What is the importance of Data Dictionary in a data model? Explain the data dictionary entries. (10 Marks)
5. a. What is meant by architectural design? Explain briefly about the repository model and the client server model. (10 Marks)
b. What is the difference between subsystems and modules? Describe two strategies to decompose a subsystem into modulus. (10 Marks)
6. a. What is Extreme programming? List out the practices in Extreme programming. (06 Marks)
b. Explain the rapid application development environment. (06 Marks)
c. List Lehman's laws on Program evolution dynamics. (08 Marks)
7. a. What is the need for software inspection? What are the advantages of inspection over testing? (10 Marks)
b. Explain the different phases involved in system testing. (10 Marks)
8. a. Describe the people capability maturity model for managing organization's human assets. (10 Marks)
b. Explain how the algorithm approach to cost estimation may be used by project managers for option analysis. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.