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07MCA42

Fourth Semester MCA Degree Examination, June/July 2011
Software Engineering

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Define the terms 'software', 'software engineering' and 'software process.' (06 Marks)
b. Discuss the professional and ethical responsibilities of a software engineer. (04 Marks)
c. Explain legacy systems with a neat diagram. (10 Marks)
- 2 a. What is the dependability of a computer system? Explain briefly about all of its four principal dimensions and other system properties. (10 Marks)
b. Explain briefly about any two software process models. (10 Marks)
- 3 a. What are the functional and domain requirements of a software product? Explain what is the significance of non-functional requirements. (10 Marks)
b. Describe the process of requirement elicitation and analysis. What is the importance of freezing the requirements before starting design and development? (10 Marks)
- 4 a. Explain in detail the process of risk management in software project management. (10 Marks)
b. Illustrate behavioural model and object models. (10 Marks)
- 5 a. What is meant by architectural design? Explain briefly about the repository model and the client server model. (10 Marks)
b. Explain how to identify object classes. Describe the characteristics of object oriented design. (10 Marks)
- 6 a. What is meant by software prototyping? Write in detail about the rapid application development. (10 Marks)
b. Define software maintenance. What are the types of software maintenance? What are the key factors that distinguish development and maintenance and which lead to higher maintenance costs? (10 Marks)
- 7 a. Distinguish between verification and validation. What are the stages involved in state analysis? (10 Marks)
b. What is the need for software testing? What are the phases involved in system testing? How test automation helps software testing? Mention various approaches that you can take to test case design. (10 Marks)
- 8 Write a short notes on the following :
a. The people capability maturity model.
b. The cocomo model.
c. Algorithmic cost models in project planning.
d. Software productivity. (20 Marks)

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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.

