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13MCA33

**Third Semester MCA Degree Examination, June/July 2017**  
**Software Engineering**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

- 1 a. What is software engineering? What are the fundamental software engineering activities? (07 Marks)
- b. What are the professional and ethical responsibilities of a software engineer? (07 Marks)
- c. What are the general issues that affect many different types of software? (06 Marks)
- 2 a. Define software process model. Explain waterfall model. (10 Marks)
- b. With the relevant diagram, explain the four basic process activities. (10 Marks)
- 3 a. What are functional and non – functional requirements? (06 Marks)
- b. Explain the ways of writing system requirements specification. (06 Marks)
- c. Explain the process of requirement and elicitation and analyses process, with a suitable diagram. (08 Marks)
- 4 a. What is system modelling? Explain each UML diagram, with a diagram used to represent the essentials of a system. (12 Marks)
- b. Draw and explain sequence diagram for a typical weather station. (08 Marks)
- 5 a. What are the essentials of component based software engineering? (06 Marks)
- b. Define component model. With a diagram, explain the basic elements of a component model. (10 Marks)
- c. Mention the categories of component model implementation services. (04 Marks)
- 6 a. Explain the advantages of using distributed approach to system development. (10 Marks)
- b. Write short note on : (10 Marks)
  - i) Middle ware
  - ii) Client server computing.
- 7 a. Explain the major issues of project planning. (10 Marks)
- b. What is risk management? Explain the risk management process with a diagram. (10 Marks)
- 8 a. What is software testing? Explain the fundamental of testing. (10 Marks)
- b. Write short notes on : (10 Marks)
  - i) Levels of testing
  - ii) Black – box testing

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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.