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13MCA33

**Third Semester MCA Degree Examination, Dec.2016/Jan.2017**  
**Software Engineering**

Time: 3 hrs.

Max. Marks:100

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

- 1 a. What are the attributes of good software? (08 Marks)  
b. What are the key challenges faced by software engineer? Explain. (06 Marks)  
c. Explain the professional responsibilities of a software engineer. (06 Marks)
- 2 a. Explain the principles of agile methods. (06 Marks)  
b. Discuss rational unified process with a neat diagram. (06 Marks)  
c. Explain waterfall model with its merits and demerits. (08 Marks)
- 3 a. Discuss requirement engineering process with a neat diagram. (07 Marks)  
b. Explain requirements elicitation and analysis process. (07 Marks)  
c. What are the requirements validation techniques? Explain briefly. (06 Marks)
- 4 a. Explain system models with suitable examples. (10 Marks)  
b. What is architectural design? Explain the repository model and client-server model with an example for each. (10 Marks)
- 5 a. Explain basic elements of a component model with a neat diagram. (12 Marks)  
b. List out the advantages and disadvantages of using a distributed approach to systems development. (08 Marks)
- 6 a. Differentiate between black box testing and white box testing. (08 Marks)  
b. Name the various estimation techniques in software systems. (06 Marks)  
c. Discuss project scheduling and staffing. (06 Marks)
- 7 a. Explain risk management process with a neat diagram. (08 Marks)  
b. Explain functional and non-functional requirements. (04 Marks)  
c. What are the practices followed in extreme programming? (08 Marks)
- 8 Briefly explain the following:  
a. CBSE process.  
b. Data flow diagram of an ATM.  
c. Software as a service.  
d. Function oriented design. (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.