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Seventh Semester B.E. Degree Examination, December 2011
Software Architectures

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Define the software architecture. Discuss in detail, the implications of the definition. (10 Marks)
- b. Define the following terms :
 - i) Architectural model
 - ii) Reference model
 - iii) Reference architecture. (06 Marks)
- c. Explain the module based structures. (04 Marks)
- 2 a. Discuss the invariants, advantages and disadvantages of pipes and filters architectural style. (09 Marks)
- b. What are the basic requirements for a mobile robot's architecture? How the implicit invocation model handles them? (08 Marks)
- c. Write a note on heterogeneous architectures. (03 Marks)
- 3 a. What are the qualities that the architecture itself should possess? (06 Marks)
- b. List the parts of quality attribute scenario. (04 Marks)
- c. What is the goal of tactics for testability? Discuss the two categories of tactics for testing. (10 Marks)
- 4 a. Discuss the steps involved in the implementation of pipes of filters architecture. (12 Marks)
- b. Write the context, problem and solution part of blackboard architectural pattern. (08 Marks)

PART – B

- 5 a. Discuss the most relevant scenario, illustrating the dynamic behavior of a broker system. (10 Marks)
- b. Discuss the consequences of presentation abstraction control architectural pattern. (10 Marks)
- 6 a. Explain in brief, the components comprising the structure of microkernel architectural pattern. (10 Marks)
- b. With an example, explain when the reflection architectural pattern is used. What are its benefits? (10 Marks)
- 7 a. Explain the variants of whole – part design pattern, in brief. (10 Marks)
- b. Explain the dynamics part of master – slave design pattern. (08 Marks)
- c. Mention any two benefits of proxy design pattern. (02 Marks)
- 8 a. Explain the steps involved in designing an architecture, using the attribute driven design. (10 Marks)
- b. "Architecture serves as a communication vehicle among stakeholders. Documentation facilitates that communication" Justify. (10 Marks)

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Important Note : i. 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.