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**Seventh Semester B.E. Degree Examination, December 2012**  
**Software Architecture**

Time: 3 hrs.

Max. Marks:100

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

**PART - A**

1.
  - a. Explain in detail the building of Architecture Business cycle by identifying the factors of influence. (10 Marks)
  - b. Briefly explain, what does software architecture constitute. (05 Marks)
  - c. Describe the Architectural structure of a system. (05 Marks)
2.
  - a. Enlist the different Architectural styles and discuss in brief Event – based, Implicit Invocation. (06 Marks)
  - b. Explain the software paradigm for process control. (04 Marks)
  - c. State the problem of KWIC. Propose Abstract Data types and Implicit Invocation styles to implement solutions for the same. (10 Marks)
3.
  - a. Explain quality attribute scenarios. (06 Marks)
  - b. Distinguish between availability and modifiability scenarios. (04 Marks)
  - c. Explain the following with respect to tactics :
    - i) Fault prevention    ii) Defer binding time    iii) Resource arbitration
    - iv) Internal monitoring    v) Run time tactics. (10 Marks)
4.
  - a. Explain layers architectures pattern, with sketches and CRC cards. (06 Marks)
  - b. List the components of a pipe and filter architecture pattern and depict the dynamics behaviour of it. (08 Marks)
  - c. Explain the forces that influence solution to problem based on black board pattern. (06 Marks)

**PART - B**

5.
  - a. Describe the structure of Broker architectural pattern with their respective CRC cards. (08 Marks)
  - b. Explain the dynamic behaviour of MVC pattern, with sketches. (08 Marks)
  - c. List the benefits of PVC pattern. (04 Marks)
6.
  - a. Enumerate the implementation of a Micro Kernel pattern. (10 Marks)
  - b. Explain the reflection architectural pattern and its known uses. (10 Marks)
7.
  - a. Enlist the benefits of whole – part pattern. (04 Marks)
  - b. Discuss the structure, dynamics and implementation of Master – Slave pattern. (10 Marks)
  - c. List the known uses and liabilities of proxy pattern. (06 Marks)
8.
  - a. Explain ADD and its steps. (07 Marks)
  - b. What are views? How they serve the architecture, with examples. (06 Marks)
  - c. List the steps in documenting a view for architecture. (07 Marks)

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## Seventh Semester B.E. Degree Examination, June 2012

### Software Architecture

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting at least TWO questions from each part.**

#### PART – A

- 1
  - a. Define software architecture. What is architecture business cycle? Explain with a neat diagram. (10 Marks)
  - b. Define architectural patterns, reference models and reference architectures and bring out the relationships between them. (06 Marks)
  - c. Explain the various process recommendations as used by an architect while developing software architectures. (04 Marks)
- 2
  - a. Explain the process control paradigm with various process control definitions. (06 Marks)
  - b. List the basic requirements for mobile robot architecture. (04 Marks)
  - c. Explain the process control view of cruise control architectural style and obtain the complete cruise control system. (10 Marks)
- 3
  - a. What is quality attribute scenario? List the parts of scenario, with an example. (04 Marks)
  - b. What is availability? Explain the general scenario for availability. (08 Marks)
  - c. Classify security tactics. What are the different tactics for resisting attacks? (08 Marks)
- 4
  - a. List the components of pipe and filters architectural pattern. With sketches, explain the CRC cards for the same. (08 Marks)
  - b. Define blackboard architectural pattern. Briefly explain the steps used to implement the blackboard pattern. (08 Marks)
  - c. Write a note on the Hearsay – II system. (04 Marks)

#### PART – B

- 5
  - a. Define broker architectural pattern. Explain with a diagram the objects involved in a broker system. (07 Marks)
  - b. Depict the dynamic behavior of MVC with any one scenario. (07 Marks)
  - c. Give the CRC cards for top level, intermediate level and bottom level PAC agents. (06 Marks)
- 6
  - a. What are the steps involved in implementing the microkernel system? (08 Marks)
  - b. Explain the known uses of reflection pattern. (06 Marks)
  - c. Explain the advantages and disadvantages of a reflective architectural pattern. (06 Marks)
- 7
  - a. Briefly explain the benefits of master slave design pattern. (06 Marks)
  - b. What are variants of proxy pattern? (06 Marks)
  - c. List and explain the steps to implement a whole part structure. (08 Marks)
- 8
  - a. List the steps of ADD method of architectural design. (06 Marks)
  - b. Explain with a neat diagram, the evolutionary delivery life cycle model. (06 Marks)
  - c. What are the suggested standard organization points for view documentation? (08 Marks)

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