USN | | | | | | | | | | **06IS72**

Seventh Semester B.E. Degree Examination, December 2010
Software Architecture

Time: 3 hrs.   Max. Marks: 100

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

PART – A

1 a. Explain how the software architectures affect the factors of influence. Hence or otherwise explain ABC. **(08 Marks)**
   b. Briefly explain the technical importance of software architectures. Further elaborate on the fact that architecture is the vehicle for stakeholder communication. **(07 Marks)**
   c. What is an allocation structure as applied to software architectures? Explain the three allocation structures in practice. **(05 Marks)**

2 a. Define the following, with an example :
      i) Controlled variable ;   ii) Set point ;   iii) Open loop system ;   iv) Feedback control system ;   v) Feed forward control system. **(10 Marks)**
   b. State the problem of KWIC. Propose implicit invocation and pipes and filters style to implement a solution for the same. **(10 Marks)**

3 a. What is a quality attribute scenario? List the parts of such a scenario. Distinguish between availability scenarios and modifiability scenarios. **(08 Marks)**
   b. Explain how faults are detected and prevented. **(08 Marks)**
   c. Write a brief note on design time tactics. **(04 Marks)**

4 a. List the components of a pipe and filters architectural pattern. With sketches, explain the CRC cards for the same. **(08 Marks)**
   b. Explain the forces that influence the solutions to problems based on blackboard pattern. **(07 Marks)**
   c. Write a note on the HEARSAY – II system. **(05 Marks)**

PART – B

5 a. What is the necessity of proxies and bridge components in a broker system? Explain. **(06 Marks)**
   b. Explain the possible dynamic behaviour of MVC pattern, with suitable sketches. **(09 Marks)**
   c. Highlight the limitations of PAC pattern. **(05 Marks)**

6 a. List and explain the participating components of a microkernel pattern. **(10 Marks)**
   b. Explain the known uses of reflection pattern. **(10 Marks)**

7 a. Briefly explain the benefits of master slave design pattern. **(06 Marks)**
   b. List and explain the steps to implement a whole – part structure. **(08 Marks)**
   c. With a neat sketch, explain the typical dynamic scenario of a proxy structure. **(06 Marks)**

8 a. List the steps of ADD. **(04 Marks)**
   b. Write a note on creating a skeletal system. **(06 Marks)**
   c. What are the uses of architectural documentation? Bring out the concept of view as applied to architectural documentation. **(10 Marks)**

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