10CS/IS81

Eighth Semester B.E. Degree Examination, Dec.2017/Jan.2018
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. With the help of a neat block diagram of ABC (Architecture Business Cycle) explain the factors that influences software architecture. **(10 Marks)**
   b. Explain in detail how software architecture manifests the earliest set of design decisions. **(10 Marks)**

2 a. Explain briefly the following with advantages and disadvantages:
      (i)   Data abstraction and object-oriented organization.
      (ii) Repositories. **(10 Marks)**
   b. State the problem of KWIC (Keyword in Context). Propose shared data and implicit invocation styles as solution to the same. **(10 Marks)**

3 a. What is availability quality attribute? Explain the availability general scenario. Also, bring out the concept of system failures. **(10 Marks)**
   b. What is a tactic? Explain modifiability tactics with a neat diagram. **(10 Marks)**

4 a. What do you mean by architectural pattern? How it is categorized? Also, explain the benefits of pipes and filters architectural pattern? **(10 Marks)**
   b. Explain in detail the implementation steps of layered architectural pattern. **(10 Marks)**

PART – B

5 a. Discuss briefly the structure of model view controller architectural pattern with neat CRC cards. **(06 Marks)**
   b. Illustrate the dynamic behavior of broker architectural pattern with a neat diagram that shows the interaction of brokers via bridge component. **(07 Marks)**
   c. Highlight on the consequences of presentation-abstraction control (PAC). **(07 Marks)**

6 a. What are the steps involved in implementing microkernel system? **(12 Marks)**
   b. Define reflection architectural pattern. Explain the dynamics of the same. **(08 Marks)**

7 a. Discuss the implementation steps of whole-part structure. **(08 Marks)**
   b. What are the benefits and liabilities of master-slave architectural pattern? **(06 Marks)**
   c. Define proxy architectural pattern. Explain its implementation steps. **(06 Marks)**

8 a. What are the ADD design steps? **(05 Marks)**
   b. What do you mean by documenting an interface? What is the suggested template for documenting interfaces? **(10 Marks)**
   c. List and summarize how the documentation is organized to serve a stakeholder. **(05 Marks)**

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