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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. (10 Marks)
(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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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.