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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.