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10IS81

Eighth Semester B.E. Degree Examination, July/August 2022

Software Architectures

Time: 3 hrs.

Max. Marks: 100

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

PART – A

- 1 a. Explain briefly the properties of a good software architecture design. (04 Marks)
- b. Discuss software structures in detail. (08 Marks)
- c. Define architectural patterns, reference models and reference architecture. Explain briefly the relationships between them. (08 Marks)

- 2 a. Explain in brief about KWIC (Keyword in context) problem with abstract data types and implicit invocation styles to implement solutions. (08 Marks)
- b. Explain the advantages and disadvantages of pipes and filters in architectural styles. (08 Marks)
- c. Define architectural styles. Mention any four commonly used styles. (04 Marks)

- 3 a. Explain the quality attribute scenarios for system quality attributes. (07 Marks)
- b. Explain availability. Explain the general scenario for availability. (07 Marks)
- c. Explain Testability tactics and write a brief note on them. (06 Marks)

- 4 a. Discuss the steps involved in the implementation of pipes and filters architecture. (08 Marks)
- b. Define blackboard architectural pattern. Explain the implantation of the blackboard pattern using example. (08 Marks)
- c. What are the benefits of Layered patterns? (04 Marks)

PART – B

- 5 a. What is model-view architectural pattern? With an example illustration, write its structure and implementation over a scenario. (08 Marks)
- b. Define the Broker architectural pattern explain the types of participating components which comprises it. (08 Marks)
- c. List the benefits of presentation abstraction control (PAC) pattern. (04 Marks)

- 6 a. Explain in brief the components comprising the structure of microkernel architectural pattern. (10 Marks)
- b. Explain the reflection architecture pattern and its known uses. (10 Marks)

- 7 a. Explain the five steps implementation of Master – Slave pattern. (10 Marks)
- b. Define proxy design pattern. List the known uses and liabilities of the proxy design pattern. (10 Marks)

- 8 a. Explain the evolutionary delivery life cycle model with a diagram. (06 Marks)
- b. What are the steps in ADD? (06 Marks)
- c. Explain views with reference to concept choosing the view and its documentation. (08 Marks)

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.