USN | | | | | | | | | | 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)**

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