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10IS81

Eighth Semester B.E. Degree Examination, Dec.2019/Jan.2020
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. What is a architecture business cycle? Explain with a neat diagram. **(08 Marks)**

b. Explain the various process recommendations as used by an architect while developing software architectures. **(06 Marks)**

c. Define architectural model, reference model, reference architecture and bring out the relationship between them. **(06 Marks)**

2 a. Explain the process control paradigm with various process control definitions. **(08 Marks)**

b. What are the basic requirements for a mobile robot's architecture? How the implicit invocation model handles them? **(08 Marks)**

c. Write a note on heterogeneous architectures. **(04 Marks)**

3 a. Briefly explain the testability tactics. **(07 Marks)**

b. What are the qualities of the system? Explain the modifiability general scenario. **(07 Marks)**

c. Explain how faults are detected and prevented, using availability tactics. **(06 Marks)**

4 a. List and explain the benefits and liabilities of pipes and filters pattern. **(08 Marks)**

b. Define architectural pattern for blackboard. Briefly explain the steps to implement the blackboard architectural pattern. **(08 Marks)**

c. Write a short note on HEARSAY – II system. **(04 Marks)**

PART – B

5 a. What do you mean by broker architecture? What are the steps involved in implementing distributed broker architecture patterns. **(08 Marks)**

b. Give the CRC cards for top level, intermediate level and bottom level PAC-agents. Highlight the limitations of PAC pattern. **(08 Marks)**

c. Depict the dynamic behavior of MVC, with any one scenario. **(04 Marks)**

6 a. Discuss the benefits and liabilities of reflection architectural pattern and also highlight the known uses of reflection architectural pattern. **(07 Marks)**

b. Explain in brief, the components comprising the structure of microkernel architectural pattern with OMT (Object Modeling Technique) diagram. Also draw the CRC cards for each component. **(08 Marks)**

c. Explain the steps involved in implementing the Microkernel system. **(05 Marks)**

7 a. With a neat sketch, explain the typical dynamic scenario of a proxy structure. Highlight the consequences of proxy structure. **(07 Marks)**

b. List and explain the steps to implement whole part structure. **(07 Marks)**

c. Give the structure of master slave design pattern with CRC. And discuss the variants of master slave design pattern. **(06 Marks)**

8 a. Explain with a neat diagram, the evolutionary delivery life cycle model. **(07 Marks)**

b. Briefly explain the different steps performed while designing an architecture using the ADD method. **(07 Marks)**

c. Explain the three step procedure for choosing the views for your project. **(06 Marks)**

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