SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY: PUTTUR – 517583 QUESTION BANK

Class: I M.Tech II Sem

Branch: CSE

Subject: Software Architecture and Design Patterns

Subject Code: (16CS5810)

UNIT-I

- 1. Write about the software architecture business cycle. Who influenced the architecture? Explain.
- 2. What is Software Architecture? What Software Architecture is and What It isn't.
- 3. Explain about Architectural Patterns, Reference Models, and Reference Architectures.
- 4. Write notes on Architectural Structures and Views.
- 5. What is the difference between reference architecture and an architectural pattern? What can you do with one that you cannot do with the other in terms of organizational planning and architectural analysis?
- 6. For the system you are currently working on, what are the most important qualities? What are the system-specific scenarios that capture these qualities and what are the general scenarios they make concrete?
- 7. What tradeoffs with other quality attributes might you expect from using them (such as security, availability, and modifiability)?
- 8. Write notes on Architectural styles and patterns.
- 9. What is the Life Cycle of the Architecture? When would ADD be appropriate and when would ad hoc design be appropriate?
- 10. What are the uses of Documenting Software Architecture? What documentation would you need to do performance analysis?

UNIT-II

- 1. Why we need to analyzing architecture and when we analyze the architecture.
- 2. If you were going to evaluate the architecture for this system, who would you want to participate? What would be the stakeholder roles and who could you get to represent those roles?
- 3. Write about ATAM? Explain briefly.
- 4. Differentiate ATAM & CBAM. What is the importance of these methods in an architecture.
- 5. What sources of uncertainty do you typically have to deal with and how would you go about characterizing, measuring, and minimizing them?
- 6. What is the importance of Cost Benefit Method in an architecture design? Explain.
- 7. How to moving from one system to many? Explain.
- 8. What makes the Software Product Line work?
- 9. How to building systems from off the shelf components?
- 10. What is the future of software architecture?

UNIT-III

- 1. What is Design Pattern? Write about pattern description.
- 2. How to organizing the patterns, explain organizing the catalog in detail.
- 3. What are the roles in solving design problems?

- 4. How to select and use the design pattern in the problem solving.
- 5. Write notes on abstract factory pattern.
- 6. Explain about the Factory Method pattern.
- 7. Differentiate the builder and façade patterns.
- 8. Write notes on singleton pattern.
- 9. Explain briefly about composite pattern. How it differ from fly weight.
- 10. Write notes on bridge and prototype patterns.

UNIT-IV

- 1. What are the behavioral patterns? Explain the importance of behavioral patterns in finding the solutions for design problems.
- 2. Write short notes on chain of responsibility.
- 3. Explain about command pattern.
- 4. Write short notes on interpreter pattern and iterator patterns.
- 5. Explain about mediator pattern.
- 6. Explain about memento pattern. What are the related patterns?
- 7. Write short notes on observer pattern.
- 8. Explain about the state and strategy patterns.
- 9. Write short notes on template method.
- 10. Write the importance and when we apply the visitor pattern.

UNIT-V

- 1. Write about A-7E? What are the requirements and qualities?
- 2. Write notes on World Wide Web? What is the relationship to the architecture business cycle.
- 3. Write short notes on libWWW.
- 4. The Web did not have performance as one of its early quality goals, which is unusual for a successful system. Why do you think the system was successful anyway? What, if anything, does this say about the future of computing?
- 5. Write short notes on Air Traffic Control
- 6. What are the requirements and qualities of Air Traffic Control?
- 7. Write short notes on ISSS physical view.
- 8. Write about HTTP Security. Explain in detail.
- 9. Write about Celsius Tech. Explain briefly.
- 10. What are the requirements and qualities for Celsius Tech.?