IT406E-Software Engineering

Question Bank

Unit 1 –

1. State any two limitations of Waterfall Model
2. What do you mean by the term Software Engineering
3. List and explain the principles of Software Engineering
4. What are Software crises. What is software product.
5. Explain the Waterfall model of Software development process
6. State Stakeholders in Software Engineering
7. What do you mean by software development life cycle. Explain Spiral model with diagram
8. List any four essential qualities of software product

Unit 2 –

1. What is Software Project Management
2. Why software metric is used
3. Explain the parameters used to measure Software quality
4. List with meaning the phases of Project Management
5. Explain Size oriented metrics
6. Explain Functional oriented metrics
7. Describe the role of software metrics
8. Explain planning and monitoring in project management
9. Explain the parameters used to measure software quality
10. Illustrate the concept of software project management

Unit 3 –

1. Explain the need of SRS
2. List any 2 components of SRS with meaning
3. List any 2 characteristics of SRS
4. Explain the structure of SRS document with example
5. Explain SRS Validation

Unit 4 –

1. Define What do you understand by analysis model. List with functions the elements of analysis model (any 4).
2. How the requirements of the *SafeHome security functions the ability to monitory* security sensors i.e. break-in sensors.

3. Describe the Behavioral model with an example of Tic-Tac-Toe computer game.
4. Justify the statement " A *semantic analysis pattern (SAP) "is a pattern that describes a small set of coherent use cases that* together describe a basic generic application".
5. Describe the following modeling strategies. i. Flow Oriented Modeling
   ii. Class-based Modeling
6. Develop an activity diagram for the ACS-DCV use case for the SafeHome system**.**
7. Develop an swimlane diagram for the ACS-DCV use case for the SafeHome system**.**
8. Write a formal use case for the ACS-DCV for the SafeHome system**.**
9. Enlist the objectives of requirements modeling.

Unit 5 –

1. Define the term Design in software engineering.
2. With diagram describe the process of translating the requirement model into the design model.
3. Enlist Software Quality Guidelines and Attributes.
4. Justify the statement "Software design is an iterative process through which requirements are translated into a blue print".
5. Define the evolution of software design.
6. Describe any 5 fundamental design concepts.
7. What are the dimensions f the design model. With diagram describe it considering an example.
8. Compare 'Component Level Design Elements' and 'Deployment Level Design'. Also draaw the respective diagrams.
9. Why Coupling is used in software design. Enlist with meaning the different dimensions of coupling.
10. Define cohesion in software design. Enlist their types with meaning.

Unit 6 –

1. Describe Garvin's eight dimensions of software quality. (all 8)
2. Describe McCall's quality factors of software quality. (all 11)
3. Enlist with meaning 6 main characteristics of ISO 9126 Software quality.
4. Enlist different software (System) development methodologies in software engineering. Describe any one of them.
5. Enlist common project management methodologies in software engineering. Describe any one of them.
6. What is software quality control.
7. Describe Software Quality Assurance (SQA).
8. Enlist with meaning the Elements of Software Quality Assurance (SQA).
9. Describe the SQA task in achieving high quality end product .
10. Describe the steps involved in Statistical SQA.

11. Describe how Six Sigma is the most widely used strategy for statistical quality assurance in industry today.
12. What do you understand by software reliability. Describe the measures of reliability and availability.
13. Describe ISO 9000 quality standards with an example.
14. Describe how SQA Plan provides road map for instituting Software quality assurance.

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