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Department of Computer Science and Engineering

SOFTWARE ENGINEERING (R13)

QUESTION BANK

UNIT-I

1. Discuss Evaluation of Software Engineering Methodologies in detail.
2. Explain in detail about Phased Development Life Cycle.
3. What is Software Process? How is it related to a Software Project and Product?
4. Enumerate the features of the various types of Software Processes.
5. Compare various software development models with respect to their applications, strength, and weaknesses.
6. Explain Spiral model with a neat sketch. What can you say about the software that is being developed or maintained as you move outward along the spiral process flow?
7. Explain the incremental process model with advantages and disadvantages.
8. Explain agility in the context of software engineering.
9. Discuss Prototyping Model with advantages and disadvantages.
10. Discuss Waterfall model with suitable diagram. Give its merits and demerits.

UNIT-II

1. What is the goal of requirements analysis phase? Give reasons why the requirements analysis phase is a difficult one.
2. Briefly explain the models used for structured analysis.

3. Explain in detail about data oriented Analysis.
4. Explain in detail about Object Oriented Analysis.
5. Discuss Software Requirements Specification with an example.
6. Differentiate between functional and non-functional requirements with suitable examples.
7. Explain in detail about Requirements Engineering Process.
8. Explain how to include packages in class diagrams.
9. How the activity diagrams are useful in eliciting the requirements of software system?
10. Give the measures to validate the requirements of software system.

UNIT-III

1. What is Design? Discuss Software design Process in detail.
2. What are the design principles of a good software design? Explain.
3. What are structure charts? Explain.
4. Describe the process of Translating requirements into design model with a neat diagram.
5. Define design. Discuss the characteristics of good design.
6. Discuss design methodologies in the context of Software Design.
7. Explain in detail Transform Vs Transaction analysis.
8. Discuss Object oriented analysis in detail.
9. Explain in detail Object Oriented design.
10. Differentiate structured Design and Object oriented design.

UNIT-IV

1. Discuss Coding Principles in detail.

2. How is code reusability principle achieved in structured and object-oriented Programming languages?
3. Differentiate between traditional and test-driven coding processes.
4. List out five errors in each category of compilation, logical, and runtime errors in your programs.
5. What is testing? Explain the different levels of testing.
6. Write the steps to calculate cyclomatic complexity and illustrate with an example.
7. Explain the principles of testing software system.
8. What is the need of software testing? What are its main objectives explain?
9. Describe Boundary Value Analysis (BVA) testing for software.
10. Define Debugging and explain its process.

UNIT-V

1. What is effort? What is the need of effort and Project size estimation?
2. Discuss about the project planning activities.
3. Discuss Software Project Management in detail.
4. Write about Software Configuration Management.
5. Differentiate Metrics and Measures in the context of Software development.
6. Define Software Metric and explain in detail.
7. Discuss techniques involved in Software size estimation.
8. Explain in detail about Software Effort estimation Techniques.
9. List and explain various software metrics available for coding.
10. How the improper project planning affects software system? Explain.

UNIT-VI

1. What are the main objectives of Software verification and validation? Briefly explain different V and V techniques.
2. Discuss the software metrics that can be applied to the qualitative assessment of software quality and the side effects that occur during maintenance phase.
3. Explain ISO 9126 quality model with a neat sketch.
4. Explain various software quality standards and discuss how to assure them.
5. Explain the factors that affect software quality
6. Explain in detail about capability maturity model.
7. Write about Software Quality Assurance.
8. Write and explain the metrics for software maintenance.
9. Discuss Reengineering in detail.
10. Define software maintenance and explain its types in detail.