**Unit 1: Introduction**

1. Define software. What are the types and characteristics of software?
2. What are the attributes of good software? Explain with examples.
3. Define software engineering and explain its importance.
4. Discuss the key challenges faced by software engineering today.
5. Differentiate between system engineering and software engineering.

**Unit 2: Software Development Process Model**

1. Explain the Waterfall model with its advantages and disadvantages.
2. What is Rapid Application Development? How does it differ from the Spiral model?
3. Compare and contrast Agile methods and Extreme Programming (XP).
4. Explain Component-Based Software Engineering (CBSE) with examples.
5. What are CASE tools? Discuss their classification and importance in software engineering.

**Unit 3: Software Requirement Analysis and Specification**

1. Differentiate between functional and non-functional requirements with examples.
2. Explain the techniques of requirement elicitation and analysis.
3. What is a use case? How is it helpful in requirement analysis?
4. Discuss requirement validation and the techniques used for it.
5. Explain the importance of feasibility analysis in software development.

**Unit 4: Software Design**

1. What is software modularity? Explain cohesion and coupling with examples.
2. Discuss the architectural design models: Client-Server and Layered models.
3. Explain the concept of information hiding and functional independence.
4. How do you design a user interface? Discuss the principles of Human-Computer Interaction.
5. What is design notation? How is it useful in procedural design?

**Unit 5: Coding**

1. How do you select appropriate programming languages and tools for software development?
2. Discuss the importance of good programming practices in software engineering.

**Unit 6: Software Testing and Quality Assurance**

1. Differentiate between verification and validation.
2. Explain the black-box and white-box testing techniques with examples.
3. What are unit testing and integration testing? Provide examples.
4. Describe the design of test cases with a practical approach.
5. Discuss the significance of standards like ISO 9000 and CMM in quality assurance.

**Unit 7: Software Maintenance**

1. What are the different types of software maintenance? Explain with examples.
2. Discuss the importance of configuration management and versioning.
3. What is software re-engineering? Why is it necessary?

**Unit 8: Managing Software Projects**

1. Why is project management important in software engineering?
2. Explain project scheduling and cost estimation in software project management.
3. Discuss risk management and its importance in software development.