Purple = P1
Orange = P2
Green = P3
Blue = P4

Software Engineering

MODULE-1

1. Write a short note on Agile Process Models.
2. Differentiate between waterfall and spiral model.
3. Explain the process of CMM.
4. Describe and discuss the characteristic of the agile requirements process.
5. What is Agility in the context of software engineering? With a suitable diagram explain Extreme Programming (XP).

MODULE-2

1. Develop the SRS for University Management System. OR Develop the SRS for Hospital Management System. Hospital Management System is a process of implementing all the activities of the hospital in a computerized automated way to fasten the performance. This system is to maintain the patient details, lab reports and to calculate the bill of the patient You can also manually edit any patient details and issue bill receipt to patient within few seconds. SRS for the hospital Management system should include the following: 1) Product perspective 2) Scope and objective 3) Functional requirements 4) Non-functional requirements
2. Explain with suitable diagram Scrum Agile model.
3. List out Requirement Elicitation Techniques? Explain any two methods.
4. When should one use Prototype model? Discuss the advantages and disadvantages of the prototype model.
5. COCOMO II estimation models
6. What are the potential problems of prototyping model?
7. Explain Test Driven Development (TDD) with an example.

MODULE-3

1. Illustrate Change Control & Version Control.
2. List different metrics used for software measurement. Explain function point based estimation technique in detail.
3. Discuss Abstraction, Information Hiding and Functional Independence.
4. What is process and project metrics? Explain 3P's of software engineering.
5. Differentiate between FP based & LOC based cost estimation techniques.
6. Explain what is cyclomatic complexity and different methods to calculate it. Find the cyclomatic complexity of following code:
7. Consider a software project using Semi-detached mode with 30,000 lines of code. Obtain effort estimation, Duration estimation and person estimation.
8. Tell the methods to gather the requirements for online ticket selling system for an event. Mention any four different requirements elicitation methods.
9. Explain the different metrics used for software quality and reliability.
10. Write a short note on Schedule And Cost Slippage.

MODULE-4

1. Service Oriented Software Engineering OR Explain in detail Service-Oriented Software Engineering.
2. What is user interface design? Explain it with example.
3. Explain cohesion and Coupling, Explain different types with detailed examples. OR Explain cohesion and coupling . What are the benefits of high cohesion and low coupling? - Module no.4 OR Coupling and Cohesion. OR Explain coupling and cohesion? Explain the types of coupling with example.
4. Write a short note on 1) Test Driven Development. 2) User interface design. 3) Illustrate design issues.
5. With a neat diagram explain the spiral model of software development.
6. Explain the various fundamental software design concepts.

MODULE-5

1. Explain in detail the Software Configuration Management process with suitable diagram. OR Software Configuration Management. OR What is Software Configuration Management? Explain the various steps involved in change control.

2. Explain FTR. OR What is FTR? Explain the Review guidelines considered during FTR. OR What is FTR in SQA? What are its objectives? Explain the steps in FTR.

3. What are the different categories of Risks? Explain the steps in developing RMMM plan.

4. Explain Risk and its types? Explain the steps involved in setting up or generating RMMM plan

5. What do you understand by software maintenance? Also explain the different types of maintenance.

6. Explain the features of repository required to support SCM. OR Explain the change control and version control activities in SCM.

7. What is the use case diagram? Draw a use case diagram for Hospital management system.

8. What are the different steps recommended to determine the overall consequences of risks?

9. Prepare a risk identification checklist and RMMM plan for creating a UID with biometrics (Unique Identification number) for a highly populated country.

10. Write a short note on SCRUM.

MODULE-6

1. What is testing? What is the role of testing in software engineering?

2. What is maintenance? Explain with different types of maintenance. OR Software Maintenance.

3. Explain software reverse engineering in detail.

4. What is white box testing? Explain the basis path testing method in detail. OR Differentiate between White Box and Black Box Testing.

5. **Write a short note on 1) Black Box Testing 2) Test Driven Development 3) System testing. 4) Security Engineering.**

6. **Why Integration testing is needed to test a software? Explain the different incremental integration strategies.**

7. **With examples, differentiate between validation and verification.**

8. **Explain basis path testing and cyclomatic complexity with suitable examples. OR Explain basis path testing in detail.**