Programme: S.Y.B.sc.It

Course: Software Engineering

Reference Questions

Unit-01

1. Explain Software Development Life cycle (SDLC) with the help of diagram.
2. What is Software? Explain the characteristics of Software.
3. Explain RUP.
4. Define Software Engineering and its layer with the help of diagram.
5. Write short note on Spiral Model.
6. Write short note on RAD Model.
7. What are functional and non-functional requirements of software?
8. Explain principles of Agile methods and discuss the problems with Agile method.
9. Explain different types of requirements.
10. Explain Waterfall model.
11. Explain prototyping model.
12. Explain plan driven and agile development.
13. Explain different phases in scrum process.
14. Write short note on Extreme programming.
15. Explain XP principles.

UNIT 02

1. Describe the different stages of System Engineering process
2. Explain the essential characteristics of socio technical system.
3. Explain the process or the steps of Requirement Engineering briefly.
4. Explain the context diagram and its components of Data Flow Diagram (DFD) with help of an diagram.
5. Explain legacy system categories and its assessment with the help of example
6. Define and explain the two types of emergent properties
7. Explain three main types of critical system.
8. Explain Object model.
9. Explain behavioural model.
10. Draw and explain requirements review process.

UNIT 3

1. Define Architectural Design and explain the functions of architectural design.
2. Explain software Project management briefly.
3. Explain the functions of quality assurance and its standards
4. Describe why it is important to measure the software metrics.
5. Explain User Interface Design Process (UID)
6. Briefly explain the various stages performed in the process of risk management.
7. Write short note on Reference architecture.
8. Explain User Interface Design Principles.
9. Explain principles of risk management.
10. Explain various activities of project scheduling.
11. Write two approaches of quality control.

Unit-4

1. Explain the two phases of System testing integration and release testing.
2. Explain briefly verification and validation process.
3. Write the short note on size oriented metrics of software measurement.
4. Explain type of metrics functions points and object point to estimate the software productivity.
5. Describe three different modes of Constructive Cost Models (COCOMO).
6. List and describe the static analysis check points involved in automated static analysis.
7. Explain cleanroom software development.
8. Write short note on automated static analysis.
9. Short note on component testing.
10. Explain test case design.
11. Short note on system testing.
12. Write the short note on function oriented metrics of software measurement.
13. Short note on project duration and staffing.

Unit 5

1. Explain various stages of process improvement with the help of diagram.
2. Explain the different levels of CMMI (Capability Maturity Model introduced) Framework
3. Briefly describe the concept of SOA (Service Oriented Architecture) and the benefits of SOA. What are the benefit and problem of reusing software?
4. Define distributed software engineering and explain the issues of distributed system.
5. Write a short note on SaaS (Software as a Service).
6. How process and product quality are related.
7. Explain software development with services.
8. Explain concept of services as a reusable component.
9. Explain concept of software reuse and reuse landscape.
10. Short note on client server computing.
11. Explain architectural patterns of distributed engineering.