

Note:- 1) All questions are compulsory.  
2) Figures to the right indicate maximum marks.

**Q1) Attempt any 3 of the following (15)**

- 1) Define software engineering. Explain the software development life cycle ( SDLC) steps in brief. Co1,(U)
- 2) Differentiate functional and non functional requirement. Co1(A)
- 3) What are the components of software process. Explain. Co1 (R)
- 4) Explain the structure of software requirement document. Co1 (A)
- 5) Write short note on spiral model. (Co1 (R)
- 6) What are the principle of agile method? Co1, (R)

**Q2) Attempt any three of the following (15)**

- 1) State and explain the emergent system properties with example. Co1 (U)
- 2) Explain system Engineering process in detail. Co1 (R)
- 3) Explain the simple critical system with suitable example. Co1 (R)
- 4) Write short notes on- Co1 (R )
  - i) Context model
  - ii) Object Model
- 5) Describe system dependability. what is its important in critical systems. Co1 (R)
- 6) What are the problems faced during requirement elicitation? Co1 (A)

**Q3) Attempt any three of the following (15)**

- 1) Write short note on architectural design decision. Co2 (R)
- 2) Write short note on modular decomposition styles. Co2 (R)
- 3) Explain OSI Reference Model. Co2 (R)
- 4) Explain User Interface design process with the help of a diagram. Co2 (R)
- 5) Write short note on project scheduling. Co2 (R)
- 6) State few quality standards. Co2 (R)

**Q4) Attempt any 3 of the following (15)**

- 1) Define Verification and validation. Explain in V&V Process. Co3 (A)
- 2) Explain automation testing. Co3 (R)
- 3) Explain system testing. Co3 (R )
- 4) Explain the Cost Constructive Model ( COCOMO) with the formula for computing duration of project and manpower effort for the project. Co3 (R)
- 5) Explain software inspection. Co3 (R)
- 6) Explain Software Measurement. Co3 (R)

**Q5) Attempt any 3 of the following (15)**

- 1) What is meant by process management? . Co3 (R)
- 2) Write note on Process, analysis and modelling. . Co3 (R)
- 3) Explain CMMI process improvement framework. . Co3 (A)
- 4) Write note on services as a reusable components. . Co3 (R)
- 5) Explain services engineering. . Co3 (R)
- 6) Write note on COTS product reuse. . Co3 (R)