

- N.B. (1) All questions are **compulsory**.
(2) Figures to the right indicate marks.
(3) Answers to the same question must be written together.
(4) Mixing of sub-questions is not allowed.

Q1. Attempt any three of the following.

15

- Define Software Engineering and its layer.
- Explain Software Development Life Cycle (SDLC) with the help of diagram.
- What is Rad Model? Explain it's with phases.
- Write a note on Spiral Model.
- What is software process? Explain the fundamental activities of software processes.
- Explain the principles of agile methods and discuss the problems with agile method?

Q2. Attempt any three of the following.

15

- Write a short note on legacy system.
- Describe the different stages of system engineering process.
- Explain why dependability is the most important emergent property for the critical system?
- Write a note on requirement engineering process.
- Explain the context diagram and its component of data flow diagram (DFD) with the help of example.
- What is the Behavioral Model? Explain it.

Q3. Attempt any three of the following.

15

- Define architectural design and explain the functions of architectural design.
- Explain the three different categories in which the system is organized?
- Explain user interface design.
- List the various activities of project scheduling.
- What is software project management?
- Write a note on Software Quality Management.

Q4. Attempt any three of the following.

15

- Briefly explain Verification and Validation (V & V) process.
- Explain the two phases of system testing: integration and release testing.
- List the characteristics of a good test case.
- Explain size oriented metrics.
- Explain COCOMO-II Model.
- Write a note on software productivity.

Q5. Attempt any three of the following.

- a) Explain the different stages of CMMI framework.
- b) Explain the process of improvement with the help of diagram.
- c) Describe the concept of SOA with its benefits.
- d) What is application reuse? Explain its two approaches.
- e) Write a note on architecture framework.
- f) Briefly explain on SaaS (Software as a Service).

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