

(2½ hours)

[Total Marks: 75]

- N. B.: (1) **All** questions are **compulsory**.
 (2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
 (3) Answers to the **same question** must be **written together**.
 (4) Numbers to the **right** indicate **marks**.
 (5) Draw **neat labeled diagrams** wherever **necessary**.
 (6) Use of **Non-programmable** calculators is **allowed**.

1. **Attempt any two of the following:** **10**
 - a. Explain the 5 improvements to the basic waterfall model.
 - b. How does adversarial stakeholder relationships cause difficulties in requirements specification?
 - c. Explain the three generations of software economies.
 - d. Explain the important trends in improving the software economies.
2. **Attempt any two of the following:** **10**
 - a. Enlist and explain any 10 principles of conventional software engineering.
 - b. Explain the primary objectives, essential activities and primary evaluation criteria of the Inception phase of the software development lifecycle.
 - c. What is design set? How is it evaluated, assessed and measured?
 - d. Explain the three different aspects of an architecture from a management perspective.
3. **Attempt any two of the following:** **10**
 - a. What is workflow? Explain top-level workflows.
 - b. What are the various concerns of the different stakeholders in the major milestones?
 - c. What is WBS? What information structure does it provide?
 - d. Explain the bottom up approach of the cost and schedule estimating process.
4. **Attempt any two of the following:** **10**
 - a. Discuss the roles and responsibilities of default line-of-business organization.
 - b. Explain the artifacts, responsibilities and life cycle focus of the software development team.
 - c. Explain the three levels of process required in process automation.
 - d. How does round trip engineering help to maintain consistency and traceability?
5. **Attempt any two of the following:** **10**
 - a. Give an overview of the seven core metrics.
 - b. Explain the management metric – work and progress.
 - c. Differentiate the process primitives that result from difference in project size.
 - d. Give the differences in artifacts between small commercial project and large complex project.
6. **Attempt any two of the following:** **10**
 - a. How does continuous integration result in robust and maintainable design?
 - b. Discuss the software management best practices.
 - c. Explain the major improvements in next-generation software cost estimation models.
 - d. Explain the various culture shifts with reference to modern process transition.

[TURN OVER]

7. Attempt *any three* of the following:**15**

- a. What is process? Explain three levels of process and their attributes.
 - b. Explain a typical release description document.
 - c. How does periodic status assessment serve as project snapshots?
 - d. How is the software project team evolution over the life cycle emphasized in each phase?
 - e. Explain the characteristics of a good metric.
 - f. Explain how denouement ensures the perfect transition to modern processes.
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