

(3 Hours)

[Total Marks: 100]

- 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. List Bohem's top 10 principles of conventional s/w management performance.
  - b. Write short note on test artifacts.
  - c. Emphasize on the Work Breakdown Structure.
  - d. Explain with diagram the concept of round-trip engineering.
  
2. **Attempt any three of the following:** 15
  - a. State 5 necessary improvements of waterfall model.
  - b. List and explain the 3 generation of s/w development.
  - c. Explain the process of cost estimation.
  - d. Write short note on peer inspection.
  - e. State the 5 approaches for improvement of s/w cost model.
  - f. Write brief note on event sequences necessary for performance assessment.
  
3. **Attempt any three of the following:** 15
  - a. List the principles of modern s/w system.
  - b. Explain the process of team cohesion.
  - c. Explain the 2 stages of life-cycle with the help of diagram.
  - d. What are the artifacts? How artifacts are organized into different set of the system?
  - e. Write short note on transition phase.
  - f. Emphasize on the cultural issues raised by the pragmatic artifacts.
  
4. **Attempt any three of the following:** 15
  - a. List top-level workflow of the s/w process and explain them.
  - b. Explain the integration workflow with detailed labelled diagram.
  - c. Write short note on minor milestone.
  - d. Discuss the stakeholders of major milestones of the project.
  - e. Why periodic assessment is must for the successful development of the s/w?
  - f. Explain bottom-up approach of cost and schedule estimation.
  
5. **Attempt any three of the following:** 15
  - a. Why automation of process is important in s/w development project?
  - b. Draw a neat diagram of roles in an s/w line-of-business organization.
  - c. Write short note on Project Organization.
  - d. List the different set of activities evolved over the life cycle with the help of the diagram.
  - e. List and explain different tools that automate the s/w development process.
  - f. Write short note on s/w change order.

6. Attempt any three of the following: 15
- a. List various indicators of management metrics and explain them.
  - b. Why process control and instrumentation is required in s/w development process.
  - c. Explain different features of process discriminants.
  - d. Compare between small-scale and large-scale projects.
  - e. What are process discriminants? List the various dimensions need to be considered while tailoring a process.
  - f. State and explain the four primary indicators of quality.
7. Attempt any three of the following: 15
- a. Explain the process of denouement.
  - b. State two major improvements in next-generation s/w cost estimation.
  - c. Draw a labelled diagram of automation of construction process in next-generation environment.
  - d. What are issues involved in the conventional system development and how they can be resolved in the modern technique of developing s/w?
  - e. Explain the effect of 80-20 rule over the development of the project.
  - f. Write short note on culture shift.

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