

(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. "Exhaustive testing is impossible", explain.
 - b. Explain the concept of maintenance testing.
 - c. What is a software review? What are the different types of software review?
 - d. What is experience based testing? What are the types of experience based testing?

2. **Attempt any three of the following:**
 - a. Why is software testing necessary?
 - b. Explain the benefits and risk of independent testing.
 - c. Explain the principles of software testing.
 - d. What is the fundamental test process in software testing?
 - e. Explain the psychology of software testing.
 - f. What are defects, bugs and faults in software testing?

3. **Attempt any three of the following:** 15
 - a. Explain the iterative process model.
 - b. Differentiate between verification and validation.
 - c. Explain non-functional testing with examples.
 - d. What is regression testing?
 - e. Explain the various levels of software testing.
 - f. What is acceptance testing?

4. **Attempt any three of the following:** 15
 - a. Differentiate between formal review and informal review.
 - b. What is static testing technique? Give examples on the errors that can be discovered using the static testing technique.
 - c. Explain the roles and responsibilities of the moderator, author, scribe, reviewers and managers involved during a static review
 - d. What is technical review? What are the goals of technical review?
 - e. What are static analysis tools?
 - f. Explain inspection in static testing.

5. **Attempt any three of the following:** 15
 - a. Differentiate between white box and black box testing technique.
 - b. What is decision table in software testing? How is it useful?
 - c. What is test design?
 - d. What is traceability in software testing?
 - e. Explain the concept of equivalence partitioning with example.
 - f. What is test coverage in software testing?

[Turn Over]

6. Attempt any three of the following:

15

- a. Explain the various risks in software testing.
- b. Explain the concept of configuration management in software testing.
- c. Explain incident management in software testing.
- d. What is test monitoring in software testing?
- e. What are the factors affecting the test efforts in software testing.
- f. Explain test control in software testing.

7. Attempt any three of the following:

15

- a. What are the different types of software testing tools?
- b. Explain the benefits of using a software testing tool.
- c. Explain the objectives of pilot project for a new software testing tool.
- d. What are the important factors to be considered during software testing tool selection?
- e. Explain the characteristics of performance testing tools.
- f. Explain the features of security testing tools.
