(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. Define the term Testing and Explain how it is context dependent.
b. Compare the errors and defects with reference to software testing.
c. Describe, how software testing helps to measure the quality.
d. Write a note on Test analysis and Design.

2. **Answer *any two* of the following:**   10
a. Explain the features of test-driven development.
b. Define and explain the term Validation Testing.
c. Compare Alpha Testing and Beta Testing.
d. "Non-functional testing emphasises on product characteristics" Discuss.

3. **Answer *any two* of the following:**   10
a. Compare Static Testing and Dynamic Testing.
b. What are the phases of formal review? Explain the Inspection as a formal review technique.
c. Describe the roles and responsibilities of moderator and manager in review process.
d. Explain the concept of code metrics with example.

4. **Answer *any two* of the following:**   10
a. Describe the factors considered for choosing Test techniques.
b. Describe the Use case testing as a black box test design technique.
c. What is the significance of experienced based testing technique?
d. What is the importance of traceability in test analysis?

5. **Answer *any two* of the following:**   10
a. Explain the importance of test monitoring and control.
b. What is the importance of Contingency plan in Risk based Testing?
c. Write a note on Risked based testing.
d. What are the skills that are needed for the test staff?

6. **Answer *any two* of the following:**   10
a. Describe the concept of test comparator with its features.
b. Explain Dynamic analysis tools used for Performance Monitoring.
c. What are the Risk factors associated with the use of Testing Tools?
d. State and explain characteristics of Requirements Management Tools.

7. **Attempt _any three_ of the following:** 15
a. Describe the steps of fundamental test process.
b. With the help of diagram explain the V Model of testing.
c. What are the elements of review meeting? Explain its importance.
d. List and explain the basic parts of a State Transition model.
e. What is a Test Plan? State and explain any four components of a Test Plan
f. Explain the terms Stub and Driver with reference to test harness.