Q.P. Code : 364001

(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. Should testing be done only after the code of the product is ready? Support your answer with a valid explanation.
   b. State and explain the principles of software testing.
   c. What is the difference between defect and failure in software testing? What is the cost of defect?
   d. Explain the activity of the "Fundamental Test Process" in which test environment is set up.

2. Attempt *any two* of the following: 10
   a. Give difference between black box and white box testing.
   b. Give difference between re-testing and regression testing.
   c. Which **testing level** tests interfaces between components and interactions to different parts of a system? Explain.
   d. Describe the role of regression testing and impact analysis within maintenance testing.

3. Attempt *any two* of the following: 10
   a. How can we evaluate or analyse various documents like requirement document, design document, test plan or user manual etc.?
   b. Discuss briefly different types of reviews.
   c. Define metrics. Explain cyclomatic complexity metrics with help of an example.
   d. Define exit criteria in software testing. What is its purpose? Cite few examples of exit criteria.

4. Attempt *any two* of the following: 10
   a. Explain State Transition test design technique with help of an example.
   b. Define test basis and test condition. Discuss how to identify test conditions.
   c. Explain requirement traceability. Discuss its importance.
   d. Explain the testing technique which is used when there is no specification, or if the specification is inadequate or out of date.

5. Attempt *any two* of the following: 10
   a. Write a short note on configuration management.
   b. Write a short note on test progress monitoring.
   c. Explain Incident report life cycle with help of an example.
   d. For any risk, product or project, discuss four typical risk management options.

6. Attempt *any two* of the following: 10
   a. State the goals of a proof-of-concept or piloting phase for tool evaluation.
   b. Discuss features of Test design tools.
   c. Enumerate the benefits of using tools for testing.
   d. What is "Test Comparator"? Discuss its importance and features.

TURN OVER

7. **Attempt _any three_ of the following:**   15
a.   Discuss the major tasks of Test Planning.
b.   How do we check that we are building the system right? Explain.
c.   Discuss briefly the features of "Static code analysis tools".
d.   Postal rates for 'light letters' are 25p up to 10g, 35p up to 50g plus an extra 10p for each additional 25g up to 100g. Design test case for weight of the letters using equivalence partitioning.
e.   Discuss the fundamental techniques of estimation for testing.
f.   Define test scripts. Explain briefly advanced scripting techniques for test execution tools.

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