

(3 Hours)

[Total Marks : 100

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

1. Attempt any **two** of the following :— 10
 - (a) Explain the BIG BANG approach of testing.
 - (b) Explain brainstorming process.
 - (c) How to write good test case ?
 - (d) What are the characteristics of good requirements ?

2. Attempt any **three** of the following :— 15
 - (a) Define quality. Discuss the customer's view of quality.
 - (b) Differentiate between 'Q' organisation and 'q' organisation.
 - (c) Describe any one software development model in detail.
 - (d) What are the principles of software testing ? Discuss.
 - (e) Define testing. Why testing is necessary ?
 - (f) Explain VV model for testing with diagram.

3. Attempt any **three** of the following :— 15
 - (a) What is boundary value testing ? List all the limitations of boundary value testing.
 - (b) Explain the concept of equivalence class testing with an example.
 - (c) What is decision table based testing. Where it can be used and list the components of decision based testing.
 - (d) Differentiate between strong equivalence class testing and weak equivalence class testing.
 - (e) Discuss the advantages and disadvantages of decision table based testing.
 - (f) Write the guidelines for boundary value testing.

4. Attempt any **three** of the following :— 15
 - (a) What are the coverage criteria ? Explain the testing process of data flow.
 - (b) Discuss the Data Flow analysis anomalies.
 - (c) Explain the concept of program graph with an example.
 - (d) Describe metric based testing.
 - (e) Discuss the four steps method devised by McCabe to carry out basis path testing.
 - (f) Write a short note on LOOP Coverage.

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5. Attempt any **three** of the following :— 15
- (a) What are the levels of testing ? Explain.
 - (b) What is integration testing ? List all the integration testing strategies. Explain any one.
 - (c) List all advantages and disadvantages of call graph integration testing.
 - (d) Briefly explain the concept of system testing.
 - (e) Define the term 'Interaction'. Discuss Taxonomy o interactions.
 - (f) Define Threads. What are the distinct levels of threads ?
6. Attempt any **three** of the following :— 15
- (a) Explain Object oriented testing.
 - (b) Discuss the relationship between collaboration diagrams and sequence diagrams.
 - (c) How object oriented integration testing is different from object oriented testing.
 - (d) Discuss the implications of composition and encapsulation.
 - (e) Write a short note on class testing.
 - (f) What is UML based system testing ? Explain.
7. Attempt any **three** of the following :— 15
- (a) Define Test Policy. Explain the general content of Test Policy.
 - (b) What is Test Plan ? What are the benefits of Test Plan.
 - (c) Describe the purpose of Test Reports.
 - (d) Explain benchmarking concept. Why it is required ?
 - (e) Differentiate between qualitative data and quantitative data.
 - (f) Explain the concept of checklist.