Time: 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 three* of the following: **15**

a. What are the different core components of quality?

b. Explain the difference between continuous improvement and continual improvement.

c. Explain what are the different approaches to develop software?

d. What are the quality principles of Total Quality Management?

e. Define benchmarking and metrics.

f. Describe the key pillars of a Quality Management System.

2. Attempt *any three* of the following: **15**

a. Explain the software testing lifecycle.

b. State and explain principles of software testing.

c. Explain different levels of testing.

d. Explain V-Model. Write advantages and disadvantages of V-Model.

e. What is defect? What are different categories of defect?

f. Describe maintenance testing in detail.

3. Attempt *any three* of the following: **15**

a. Explain Equivalence class partitioning with example and its types.

b. What do you mean by Boundary Value testing?

c. Explain cause-and-effect graphing in decision based testing.

d. Write notes on DD path testing.

e. Write notes on McCabe's Baseline Method with advantages.

f. Explain slice-based testing and program slicing tools.

4. **Attempt *any three* of the following:** 15

a. What are different methods of verification?

b. Write in brief software development verification and validation activities.

c. Explain levels of acceptance testing.

d. Write about different types of reviews on the basis of stage /phase.

e. Explain verification workbench.

f. What is audit? Explain types of audit.

5. **Attempt *any three* of the following:** 15

a. Explain sandwich testing along with its advantages and disadvantages.

b. Explain integration testing along with its type.

c. Write notes on static testing tools.

d. What are the benefits of automation and tools?

e. Write notes on functional/regression testing tools and java testing tools.

f. Explain the different stages in requirement-based testing.

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