

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

- Explain any five principles of Total Quality Management with suitable examples.
- Justify the statement, "People have different perceptions towards the quality of products," with suitable examples.
- Differentiate between the concepts of invention and innovation with examples.
- Explain the structure of Quality Management with the help of a neat diagram.
- What are the problematic areas of the Software Development Life Cycle? Explain in detail.
- Write a detailed note on the cost of quality.

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

15

- Define Software testing and explain its necessity in software industry.
- Explain the planning and control stages of the fundamental test process.
- What is a requirement traceability matrix? Explain its different types.
- Differentiate clearly between verification process and validation process.
- State and explain the reasons for the deviation in test team efficiency.
- Write a short note on black box testing with suitable examples.

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

15

- Explain any two types of boundary value testing with examples.
- Explain the cause-effect graphing technique with the help of a neat diagram.
- Write a short note on basis path testing.
- Define use case testing. How are various variables used in it?
- Explain the need for program slicing tools in the software testing process.
- Explain the concept of decision tables with a suitable example.

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

15

- What are the basic requirements for a validation workbench? Explain in detail.
- Explain the concepts of self-review and peer review in the verification process.
- List and explain the various types of audits conducted in software testing.
- Define unit testing and integration testing. How do they differ?
- Specify and explain the important characteristics of a good requirement.
- Explain the various roles and responsibilities of developers and testers in the testing process.

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

15

- Write a short note on proposal testing.
- What are the advantages and disadvantages of Big Bang testing?
- Explain system testing. What are its various types?
- Explain the guidelines for selecting testing tools.
- Write a short note on performance testing tools.
- Enlist and explain the various features of bug tracking tools.

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