

26/11/2018

(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

- What is quality? Explain quality viewpoints and expectations in producing and buying software.
- State the phases of fundamental test process. Describe test closure activity of the test process.
- Write note on Psychology of Testing.
- What is the difference between software fault and failure? What are the causes of software failure?

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

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- What is incremental development model? Briefly explain the characteristics of Rapid Application Development.
- What is maintenance testing? Explain the different reasons for maintenance testing.
- What is integration testing? Explain any two integration strategies with its advantages and disadvantages.
- Explain the two specific types of tests related to software changes.

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

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- Explain the different aspects of code structure to be considered during static analysis?
- Briefly explain the planning and kick-off meeting phases of formal review.
- Explain the goals and characteristics of inspection.
- What is static testing? List the objectives and advantages of static testing on software work products.

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

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- Explain cause-effect table testing with the help of an example.
- Write short note on test case specification and test procedure specification.
- Explain boundary value analysis with the help of an example.
- What is decision coverage? With the help of an example show that 100% decision coverage guarantees 100% statement coverage, but vice versa is not true.

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

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- What is configuration management? How does configuration management support testing?
- Explain the typical factors that influence the effort related to testing.
- What is the purpose and importance of test plan in software testing? Summarize the content of test plan according to 'Standard for Software Test Documentation'.
- What is risk? Explain the different classifications of risk in software testing.



6. Attempt *any two* of the following:

- a. Explain the characteristics of test management tools.
- b. Explain the different levels of scripting used in test execution tools.
- c. List the benefits and risks of test automation and tool support for testing.
- d. Define the following terms  
i)Stub ii)Driver iii)Static analyzer iv)Debugging v)Coverage tool

10



7. Attempt *any three* of the following:

- a. State the principles of software testing. Explain any two in detail.
- b. Define the following characteristics of software  
i)Reliability ii)Interoperability iii)Portability iv)Usability v)Maintainability
- c. What is cyclomatic complexity? With the help of an example, explain two ways to calculate cyclomatic complexity.
- d. Briefly explain the different factors that influence the selection of appropriate test design technique.
- e. List the major types of test approaches. Explain any two in detail.
- f. What are the important factors to be considered in selecting a tool? State the objectives for a pilot project for a new tool.

15