

TYB&PT (IT) / Software Testing / 6

Q.P. Code : 23208

(Time: 2 $\frac{1}{2}$ 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. Define Software Testing. What are the viewpoints of Quality and how they are fulfilled by testing?
- b. Explain the fundamental principles in testing.
- c. Define the following: test basis, test case, exit criteria, test condition and testware.
- d. What is the main reason for poor relationships between the test team and developers? How it can be tackled?

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

10

- a. Explain V Model in detail.
- b. Discuss Impact analysis and regression testing with respect to Maintenance testing.
- c. Define the following: Verification, Validation, Stubs, Drivers and Beta Testing.
- d. What are the different levels of testing? Explain the testing level that is concerned with the behavior of the whole system/product as defined by the scope of a development project or product.

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

10

- a. Explain the phases of a Formal review.
- b. Write a short note on Static Analysis by tools.
- c. Define the following: entry criteria, scribe, cyclomatic complexity, data flow and control flow.
- d. Define Static Testing. What is its significance? List the software work products that can be examined by different static techniques.

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

10

- a. Describe the concept and importance of code coverage with help of an example.
- b. Explain the technique in which the test cases are based on intuition, experience and knowledge about common defects.
- c. Define the following: test cases, test condition, test data, test script and traceability.
- d. A website shopping basket starts out as empty. As purchases are selected, they are added to the shopping basket. Items can also be removed from the shopping basket. When the customer decides to check out, a summary of the items in the basket and the total cost are shown, for the customer to say whether this is OK or not. If the contents and price are OK, then you leave the summary display and go to the payment system. Otherwise you go back to shopping (so you can remove items if you want).
 - i. Produce a state diagram showing the different states and transitions. Define a test, in terms of the sequence of states, to cover all transitions.
 - ii. Produce a state table.

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5. **Attempt any two of the following:** 10
- a. Write a short note on Test monitoring.
 - b. What is Product Risk and Project Risk? For any risk, product or project, discuss the four typical options to handle them.
 - c. Define the following: test control, test coverage, test monitoring, configuration management and version control.
 - d. "Incident reports move through a series of clearly identified states after being reported.", Discuss these states in the sequence of their occurrence.
6. **Attempt any two of the following:** 10
- a. What are the potential benefits and risks of using tools.
 - b. Explain Test comparators.
 - c. Define the following: debugging tool, data-driven script, keyword-driven script, screen scraper and web spider.
 - d. Discuss the features provided by test management tools.
7. **Attempt any three of the following:** 15
- a. List all the activities within the fundamental test process. Explain any one activity in detail.
 - b. Explain the four software test types.
 - c. State and explain briefly types of review.
 - d. Explain Decision table testing with help of an example
 - e. Discuss the factors to be considered in taking decisions regarding 'entry criteria' and 'exit criteria.'
 - f. Write a short note on pilot tool project.