

Roll No. ....

Total Pages : 3

**BT-8/D-22**

**48155**

**SOFTWARE TESTING**

**Paper-CSE-412N**

**Time : Three Hours]**

**[Maximum Marks : 80**

**Note :** Attempt *five* questions in all, selecting *one* question from each unit. Question Number 1 is compulsory. All questions carry equal marks.

### **UNIT-I**

1. (a) Software testing proves presence of errors not their absence. Comment.  
(b) What is the difference between verification and validation? Explain.
2. (a) What do you understand by test oracle? What are the different types of it? Discuss.  
(b) Write a note on Psychology of testing.

### **UNIT-II**

3. (a) What is the difference between white-box and black box testing? Design the test cases for a module that computes the factorial of a given integer in the range 1 to 10 using equivalence class partitioning technique.

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- (b) What is the difference between data flow based testing and control flow based testing? Illustrate.
4. (a) What do you understand by cyclomatic complexity? Write the algorithm to perform binary search, prepare its control flow graph, compute the cyclomatic complexity and design the test cases as per path coverage adequacy criteria.
- (b) What is the purpose of mutation testing? What is competent programmer hypothesis? What is its significance in mutation testing? Discuss.

### UNIT-III

5. (a) What do you understand by integration testing? What types of faults are detected by integration testing? Discuss.
- (b) What does slicing mean in programming? Differentiate between static and dynamic slicing using suitable examples.
6. (a) What is regression testing? What are the different techniques to perform regression testing? Discuss.
- (b) Write brief notes on the following :
- (i) Acceptance testing,
  - (ii) Risk analysis.

## UNIT-IV

7. (a) What is performance testing? Discuss the difference between load and stress testing.
- (b) What is security testing? Discuss with respect to web based applications.
8. (a) Provide a set of guideline for usability testing of a web based application.
- (b) What are the issue in testing classes? How is class testing performed? Discuss.

