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Sub Code: EIT-062

Roll No.

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B. TECH.
(SEM VI) EVEN SEMESTER THEORY EXAMINATION 2017-18
SOFTWARE TESTING

*Time: 3 Hours**Total Marks: 100*

Attempt all Sections. If you require any missing data; then choose suitably.

SECTION A

- 1. Attempt *all* questions in brief. **2 x 10 = 20****
- a. When we used decision table testing?
 - b. Define the term Error, Fault and Failure.
 - c. Discuss the role of manager in a test group.
 - d. Write the difference between alpha testing and beta testing.
 - e. State differences between functional and structural testing?
 - f. What is mutation score?
 - g. Differentiate between static testing and dynamic testing?
 - h. Define du-path and dc-path.
 - i. What is debugging?
 - j. Mention the criteria for selecting the test tools.

SECTION B

- 2. Attempt any *three* of the following: **10 x 3 = 30****
- a. Discuss the various levels of testing. How does testing help in producing quality software?
 - b. Explain different verification methods.
 - c. Write a program to find roots of a quadratic equation. Draw program graph, DD path graph. Also find independent paths and generate test cases.
 - d. Differentiate between black box testing and white box testing. Consider a program to find the largest amongst three numbers. Generate test cases using one black box testing technique and one white box testing technique.
 - e. Explain cyclomatic complexity, its properties and meaning in tabular form.

SECTION C

- 3. Attempt any *one* part of the following: **10 x 1 = 10****
- (a) What do you understand by Test Case, Test Suite and Test Oracle? Explain with proper example.
 - (b) Explain the process of Software Inspection. Also discuss its benefits.

4. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What is scaffolding? Why do we use stubs and drivers during unit testing?
 - (b) What is the difference between equivalent partitioning and boundary value analysis methods? Discuss with the help of example.
5. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) Explain the components of test plan in details.
 - (b) Compare and contrast the role of debugging goals and policies in testing.
6. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What is regression testing? Differentiate between regression testing and development testing.
 - (b) Explain the various data flow testing criteria.
7. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) Explain the organizational structure for testing teams in a single product companies.
 - (b) Write short notes on the following-
 - (i) Cause-effect graph testing
 - (ii) Integration testing