

B.TECH
(SEM VII) THEORY EXAMINATION 2017-18
SOFTWARE TESTING AND AUDIT

Time: 3 Hours

Total Marks: 100

- Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.
2. Any special paper specific instruction.

SECTION A

- 1. Attempt all questions in brief. 2 x10 = 20**
- a. What is testing? Differentiate between effective and exhaustive software testing.
 - b. Define the Terms: Errors, Faults and Failures.
 - c. Why do bugs occur in software?
 - d. Explain software testing life cycle.
 - e. Explain test metrics and measurements in brief.
 - f. Write different types of regression testing.
 - g. What are drivers and stubs?
 - h. Write the tools for software testing.
 - i. Write the tools for test data generation.
 - j. Distinguish between Positive and Negative testing?

SECTION B

- 2. Attempt any three of the following: 10 x 3 = 30**
- a. What is the objective of white-box testing? Explain in detail.
 - b. What are the various types of errors detected in black-box testing?
 - c. Differentiate between top down and bottom up integration testing.
 - d. What is the difference between system testing and acceptance testing?
 - e. How does regression testing help in producing quality software?

SECTION C

- 3. Attempt any one part of the following: 10 x 1 = 10**
- (a) What is software quality? What are three dimensions of software quality? Explain briefly.
 - (b) Gray box testing is well suited for web applications testing. Why?
- 4. Attempt any one part of the following: 10 x 1 = 10**
- (a) What are dynamic testing tools? Explain the functions that they must support.
 - (b) Why error seeding is performed? How it is different from mutation testing?
- 5. Attempt any one part of the following: 10 x 1 = 10**
- (a) What is structured Programming? Why it is important?
 - (b) Discuss any two model based black box testing approaches?
- 6. Attempt any one part of the following: 10 x 1 = 10**
- (a) How is cyclomatic complexity useful in program test? What is sequence of testing? What is testability?
 - (b) Describe cause-effect graphing technique with the help of an example.
- 7. Attempt any one part of the following: 10 x 1 = 10**
- (a) Explain Equivalence class partitioning and Boundary value analysis. Compare the two.
 - (b) Define the following:
 - (i) Dynamic Slicing
 - (ii) Ad hoc Testing
 - (iii) Defect Seeding