Printed pages: 01 Roll No. Sub Code: NCS 071
Paper ID: 1047

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

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