B.TECH.
(SEM VII) THEORY EXAMINATION 2022-23
SOFTWARE TESTING

Time: 3 Hours　　　　　　　　　　　　　　　*Total Marks: 100*

Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

1. **Attempt *all* questions in brief.**　　　　　　　　　　**2x10 = 20**

   (a)　Discuss the goals of software testing.
   (b)　Discuss the terms Error, Fault and Failure in brief.
   (c)　List down the differences between functional and structural testing.
   (d)　Explain the term functional system testing in brief.
   (e)　Discuss the limitations of boundary value analysis technique and equivalenceclass partition.
   (f)　Describe the term test data prioritization.
   (g)　Differentiate between Alpha Testing and Beta Testing.
   (h)　List down any three test data generation tools.
   (i)　Discuss the term post deployment testing.
   (j)　Explain the term security testing in reference to object oriented testing.

SECTION B

2. **Attempt any *three* of the following:**　　　　　　　　**10x3 = 30**

   (a)　Discuss the term test planning and explain test plan structure with suitable diagram.
   (b)　Discuss the objective of white box testing & importance of cyclomatic complexity in it.
   (c)　Explain the various data flow testing criteria.
   (d)　Discuss the organizational structure for testing teams in a single product companies.
   (e)　Explain how object oriented testing is different from procedural testing.

SECTION C

3. **Attempt any *one* part of the following:**　　　　　　　　**10x1 = 10**

   (a)　Compare and contrast the role of debugging goals and policies in the software testing.
   (b)　Explain the terms Test Case, Test Suite and Test Oracle with the help of proper examples.

4. **Attempt any *one* part of the following:**　　　　　　　　**10 x1 = 10**

   (a)　Elaborate the term white box testing.Discuss its methods and differentiate between black box and white box testing.
   (b)　Compare and contrast the equivalence partitioning and boundary value analysis testing methods. Discuss in detail with example.

5. **Attempt any *one* part of the following:** 10x1 = 10

   (a)   What is Regression Testing? Why regression test is applied in each phase of software development? Discuss.
   (b)   Discuss techniques for reducing the test data in the regression testing.

6. **Attempt any *one* part of the following:** 10x1 = 10

   (a)   Discuss factors considered for selecting a testing tool for test automation
   (b)   Discuss the static and dynamic testing tools with the help ofexamples.

7. **Attempt any *one* part of the following:** 10x1 = 10

   (a)   With respect to GUI testing, write any four test cases for any website login form.
   (b)   What is class testing? How Object-Oriented Integration and System Testing isdifferent from normal Integration testing?