Printed Pages : 2 **Roll No.** | | | | | | | | | | | **EIT062**

B. TECH.
THEORY EXAMINATION (SEM–VI) 2016-17
SOFTWARE TESTING

Time : 3 Hours ***Max. Marks : 100***

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION-A

1 Explain the following : (10×2=20)

a) What is difference between validation and verification?
b) What is the role of Review in software testing.
c) What are the factors responsible for requirement changes?
d) What are the levels of Testing.
e) Differentiate between Testing and Debugging.
f) What is Mutation Testing.
g) What do you mean by Impracticality of Testing all Paths.
h) Explain the significance of navigation testing.
i) Develop Use case Diagram for library Management system.
j) What is Software Evolution.

SECTION-B

2 Attempt any five of the following : (10×5=50)

a) What is regression testing ? Explain the code coverage Prioritization technique with the help of any example.

b) Explain the testing process of Object Oriented Testing and Explain the issues in Object oriented Techniques.

c) What is a risk matrix? How do we assign thresholds that group the potential problems into priority categories?

d) What is a state chart diagram? Draw the state chart diagram of a stack where two operations ‘push’ and ‘pop’ are allowed.

e) Discuss the static and dynamic testing tools with the help ofexamples.

f) What do you mean by SRS document verification and SDD document verification. Also give the checklist for SRS document and SDD document.

g) What do you mean by test, test cases, test suites and test oracle. Explain with scenario.

h) What is the cause –effect graphing technique? What are basic notations used in a cause-effect graph explain with an example.

SECTION-C

Attempt any two of the following : (15×2=30)

3 (i)What is an activity diagram? What are the basic symbols used in the construction of such diagram?

(ii)Consider a program for determination of division of a student in which we give marks in three subjects as input to calculate the division of a student with the following conditions.
avg. marks < 50 — fail, 50 <= avg. marks < 60 — second division, avg. mark >= 60 — first division,

There are three methods in this program- getdata(), validate() and calculate(). Draw the activity diagram and generate the test cases for the functions validate() and calculate() . Also calculate the cyclomatic complexity for these two activity diagrams.

4 Consider a program that determines the previous date . Its input are a triple of day, month, and year with its value in the range: 1<=month<=12

1<=day<=31

1850<=year<=2050

The possible output are previous date or invalid input. Design boundary value analysis test cases , robust test cases , worst test cases and robust worst test cases. Also create equivalence classes and generate test cases.

5 Write short notes on:

(i) Walkthrough

(ii) Inspection

(iii) Configuration Audit