Code No: **RT41054** **R13** **Set No. 1**

IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018

SOFTWARE TESTING METHODOLOGIES

(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) What is the truth about the myth –Complete testing is possible? [4]
   b) What is the need of Validation? [3]
   c) Explain Data flow Anomalies. [4]
   d) Explain Load Testing. [3]
   e) What are the guidelines defined for implementation of ISO 9126 model? [4]
   f) Differentiate Conventional Testing and Object Oriented Testing. [4]

PART–B *(3x16 = 48 Marks)*

2. a) Explain the Long-term Goals of Software Testing. [8]
   b) Discuss briefly about the Design Bugs and System Bugs. [8]

3. a) Differentiate Unit Verification versus Unit Validation. [8]
   b) Describe the procedure for converting state graphs and state tables into test cases. [8]

4. Illustrate various stages of a general Inspection Process with a neat diagram. [16]

5. a) Discuss the security requirements to be considered to perform Security testing. [8]
   b) Describe the characteristics of Selective Retest technique. [8]

6. a) How to measure the effectiveness of a Prioritized Test Suite? Explain. [8]
   b) Explain briefly about the Metrics of Software Maintenance. [8]

7. a) What are the various costs incurred in Testing tools? Explain. [8]
   b) Explain in detail about the issues in Object-Oriented testing. [8]

Code No: **RT41054** **R13** **Set No. 2**

IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018

SOFTWARE TESTING METHODOLOGIES

(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) What are the Immediate goals of Software Testing? [3]
   b) What are the types of errors detected by Black-box testing? [4]
   c) Explain the cost of inspection process. [4]
   d) When is Regression testing to be done? [4]
   e) Explain the two types of Test Case Prioritization. [4]
   f) What is the use of Mercury Interactive's Load Runner tool? [3]

PART–B *(3x16 = 48 Marks)*

2. Illustrate in detail about the Software Testing Life Cycle. [16]

3. a) Explain in detail about the Validation Test Plan. [8]
   b) A program calculates the total salary of an employee with the conditions that if the working hours are less than or equal to 48, then give normal salary. The hours over 48 on normal working days are calculated at the rate of 1.25 of the salary. However, on Sundays or Holidays, the hours are calculated at the rate of 2.00 times of the salary. Design test cases using decision table testing. [8]

4. a) Explain about the Control Flow Graph and its notations. [8]
   b) What are the benefits of Inspection Process? Discuss. [8]

5. Illustrate Top-Down Integration Procedure with suitable example and list its drawbacks. [16]

6. a) Why we need to minimize the Test Suite? Explain its benefits. [8]
   b) Explain briefly about the Product Quality Metrics. [8]

7. a) Describe the need of automation in testing. [8]
   b) What are the challenges in Testing Web-based software? Discuss. [8]

Code No: **RT41054** **R13** **Set No. 3**

IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018

SOFTWARE TESTING METHODOLOGIES

(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) Describe the truth for the Myth-Testing starts after program development. [4]
   b) How do you expand Immaterial cases in Decision Table? [3]
   c) What are the benefits of Static Testing? [4]
   d) Explain performance testing. [3]
   e) Why does a Test Suite Grow? [4]
   f) What is the use of Mercury Interactive's WinRunner tool? [4]

PART–B *(3x16 = 48 Marks)*

2. a) With suitable example explain why complete testing is not possible. [8]
   b) Illustrate different states of a bug attained in its life cycle. [8]

3. a) Explain in detail about the verification of High Level Design. [8]
   b) Illustrate the basic notations for Cause-Effect Graph. [8]

4. What is Cyclomatic Complexity? Illustrate the three methods to calculate Cyclomatic Complexity of a given program. [16]

5. a) What are the benefits of Designing Stubs and Drivers? Discuss. [8]
   b) How to evaluate Regression Test Selection technique? Explain. [8]

6. Explain in detail about the Capability Maturity Model (CMM) with its structure. [16]

7. a) What are the guidelines for Automated testing? Discuss. [8]
   b) Differentiate Traditional Software and Web-Based Software. [8]

Code No: **RT41054** **R13** **Set No. 4**

IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018

SOFTWARE TESTING METHODOLOGIES

(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1.	a)	What are the Post-implementation Goals of Software Testing?	[4]
	b)	What is the need of Verification?	[3]
	c)	Who can be the members of inspection team?	[4]
	d)	What are the objectives of Regression Testing?	[4]
	e)	Describe Mean-time to failure (MTTF) metric.	[3]
	f)	What is the difference between Load and Stress testing?	[4]

PART–B *(3x16 = 48 Marks)*

2.		Illustrate the Model for Software Testing with a neat block diagram.	[16]
3.	a)	Describe briefly about the verification of Low Level Design.	[8]
	b)	Discuss the guidelines for forming equivalence classes.	[8]
4.	a)	What is the need of White-Box Testing? Explain.	[8]
	b)	Describe the process of Structured Walkthrough in Static testing.	[8]
5.		Explain Bottom-up Integration testing with suitable example and compare it with Top-Down Integration.	[16]
6.	a)	Describe the goals that are the basis for prioritizing the test cases.	[8]
	b)	Explain briefly about the SQA Model Six Sigma.	[8]
7.	a)	Discuss about the guidelines for selecting a testing tool.	[8]
	b)	Explain the Strategy and tactics of testing Object Oriented Software.	[8]