



M S RAMAIAH INSTITUTE OF TECHNOLOGY

(AUTONOMOUS INSTITUTE, AFFILIATED TO VTU)

BANGALORE - 560 054

SEMESTER END EXAMINATIONS - MAY/JUNE 2016

Course & Branch : **Master of Computer Applications** Semester : **IV**
Subject : **Software Testing** Max. Marks : **100**
Subject Code : **MCAE26** Duration : **3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT - I

1. a) What is Software Testing? Describe how to do the Test Analysis and Design. CO1 (10)
b) List any Two Specification-Based Techniques and Explain how to avoid Equivalence Partitioning Errors. CO1 (10)
2. a) Write Test conditions to Consider Mandatory Ten digits Mobile phone number field with one submit button. Apply Boundary Value and Equivalence Partitioning test technique. CO1 (10)
b) Explain in details of Test Implementation and Execution. CO1 (10)

UNIT - II

3. a) What is white box testing? Explain structural testing in detail. CO2 (10)
b) Explain the following: CO2 (10)
 - i. When to do black box testing
 - ii. The challenges faced in white box testing
4. a) What is integration testing? Illustrate integration testing as a type of testing. CO3 (10)
b) For each of the systems characterized by the descriptions below, decide which type of integration is best suited for testing the following: CO3 (06)
 - i. A product is evolving in versions and each version introduces new features that are fairly insulated from other features i.e., the existing features are stable and do not get affected much by the additions
 - ii. A product is made of components with clearly defined interfaces. Hence, the stubs and drivers are available right from day one
 - iii. A product provides standard database query and display facilities. The query facility implements standard JDBC interfaces, while the display facility provides flexibility to interface multiple platforms and display systems (like Windows, Macintosh, etc)
- c) Give one example each to showcase where integration testing can be taken. CO3 (04)
 - i. As a white box approach (i.e., with access to code)
 - ii. As a black box approach (i.e., no access to code)



UNIT - III

5. a) Write the difference between Functional Versus Non-Functional Testing. CO3 (10)
b) What is Regression Testing? Explain different types of Regression Testing. CO3 (10)
6. a) List the methodology for doing Regression Testing. And Discuss Resetting the Test Cases for Regression Testing. CO3 (10)
b) Explain with an example of selecting Test Cases for Acceptance Testing. CO3 (10)

UNIT - IV

7. a) What is usability testing? Identify the quality factor for usability testing. CO4 (10)
b) Write a note on test deliverables. CO4 (10)
8. a) With an example illustrate Accessibility testing. CO4 (10)
b) Describe how to do test reporting. CO4 (10)

UNIT - V

9. a) What is test automation? What are its advantages? CO6 (04)
b) Describe the types of testing amenable to automation. CO6 (06)
c) Explain the criteria for selecting testing tools. CO6 (10)
10. a) Why metrics is needed in testing? Describe how product metrics is classified? CO6 (10)
b) What is meant by test progress metrics? What is its significance in testing? CO6 (04)
c) Write a note on Productivity Metrics. CO6 (06)

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M S RAMAIAH INSTITUTE OF TECHNOLOGY(AUTONOMOUS INSTITUTE, AFFILIATED TO VTU)
BANGALORE - 560 054**MAKEUP EXAMINATIONS - JULY 2016**

Course & Branch	: Master of Computer Applications	Semester	: IV
Subject	: Software Testing	Max. Marks	: 100
Subject Code	: MCAE26	Duration	: 3 Hrs

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT - I

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|-------|--|-----|------|
| 1. a) | Describe the term | CO1 | (10) |
| | i. Test Analysis | | |
| | ii. Test cases | | |
| | iii. Test conditions | | |
| | iv. Test Design | | |
| | v. Exit criteria | | |
| b) | What is meant by Test Implementation? Explain with a neat diagram the activities involved in testing process. | CO1 | (10) |
| 2. a) | What is meant by specification based test design techniques? Explain equivalence partitioning technique with a suitable example. | CO1 | (10) |
| b) | Describe the term 'Boundary value analysis. Explain the steps involved in boundary value analysis. | CO1 | (10) |

UNIT - II

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|-------|--|-----|------|
| 3. a) | What is White Box Testing? Explain in details of Structural Testing. | CO2 | (10) |
| b) | Define | CO2 | (04) |
| | i. When to do Black Box Testing? | | (03) |
| | ii. Challenges in White Box testing. | | (03) |
| | iii. Static Testing | | |
| 4. a) | What is Black Box testing? Illustrate How to do Black Box Testing with suitable example. | CO2 | (08) |
| b) | What is Integration Testing? Illustrate Integration Testing as a Type of Testing. | CO2 | (08) |
| c) | Explain with an example of Scenario Testing. | CO2 | (04) |

UNIT - III

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|-------|--|-----|------|
| 5. a) | Classify the following as functional and non - functional testing and justify your answer: | CO2 | (10) |
| | i. Testing of documentation of the product to match the product behavior | | |
| | ii. Verification that a payroll system satisfies local tax laws | | |
| | iii. Testing of the screens for user friendliness | | |
| | iv. Performance qualification of a product | | |
| | v. Ensuring a certain percentage of code coverage for a product | | |



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- b) Identify the process for performance testing. CO3 (10)
6. a) You are advising a customer, "based on the tests conducted, the memory should be doubled and the network bandwidth has to be quadrupled." What kind of objective data would you give to substantiate your recommendations? If the customer asks you to justify your answer in a tabular or graphical form, stating all your assumptions, how would you go about? CO3 (10)
- b) What is regression testing? Explain different types of regression testing. CO3 (10)

UNIT - IV

7. a) Describe the quality factors that are important when performing usability testing. CO4 (08)
- b) What is Accessibility testing? Explain accessibility features that enhance usability of vision impaired users. CO4 (04)
- c) Briefly explain usability and accessibility tools. CO4 (08)
8. a) Explain how a project manager identifies the resource requirements for a testing project. CO4 (08)
- b) List the deliverables coming out of test cycle/testing activity. CO4 (05)
- c) Describe the content of a test case database. CO4 (07)

UNIT - V

9. a) List any ten generic requirements for Test Tool/ Framework. CO5 (10)
- b) Explain design and architecture for Automation. CO6 (10)
10. a) Explain test defect metrics with Priority and Severity Bugs. CO6 (10)
- b) Consider that you are developing a website. Identify test variables. List the resource requirements. Show the activity breakdown and scheduling. Write a test plan to check the functionality of website. CO5, CO6 (10)



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SEMESTER END EXAMINATIONS – MAY/JUNE 2018

Course & Branch	: Master of Computer Applications	Semester	: IV
Subject	: Software Testing	Max. Marks	: 100
Subject Code	: MCAE14	Duration	: 3 Hrs

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT- I

- What is software testing? Express the need for testing in the software industry. CO1 (06)
 - Identify how to avoid the equivalence partitioning errors. CO1 (04)
 - Write a note on equivalence partitioning. A program validates a numeric field as follows: values less than 10 are rejected, values between 10 and 21 are accepted, values greater than or equal to 22 are rejected. Write a test conditions for equivalence partitioning and boundary value analysis? CO1 (10)
- Explain the principles of software testing and discuss test implementation and execution. CO1 (10)
 - Write a note on boundary value analysis. If you are less than 18, you are too young to be insured. Between 18 and 30 inclusive, you will receive a 20% discount. Anyone over 30 is not eligible for a discount. Write a test conditions for equivalence partitioning and boundary value analysis? CO1 (10)

UNIT – II

- What is integration testing? Illustrate integration testing as a type of testing. CO2 (10)
 - What are the key objectives of setting up usability test lab? In what way is it different from using other traditional labs for testing? CO2 (10)
- List and explain the various components in Code Review Checklist. CO2 (10)
 - For each of the system characterized by the description below, decide which type of integration is best suited for testing: CO2 (06)
 - A product is evolving in versions and each version introduces new features that are fairly insulated from other features, i.e., the existing features are stable and do not get affected much by the additions
 - A product is made of components with clearly defined interfaces. Hence, the stubs and drivers are available right from day one
 - A product provides standard database query and display facilities. The query facility implements standard JDBC Interfaces, while the display facilities provides flexibility to interface multiple platforms and display systems (like Windows, Macintosh, etc)
 - Explain the challenges in white box testing. CO2 (04)

UNIT- III

5. a) State when regression testing methodology can be applied. List the various best practices in regression testing. CO3 (08)
b) How do you select test cases for acceptance testing and state how acceptance tests are executed. CO3 (07)
c) Compare functional vs non-functional testing. CO3 (05)
6. a) What do you mean by acceptance criteria for product acceptance. CO3 (05)
b) What are the characteristics of performance testing that lends itself to automation. CO3 (05)
c) List the best practices in regression testing. CO3 (05)
d) Classify the following as functional and non-functional testing CO3 (05)
• Testing of documentation of the product to match the product behavior
• Verification that a payroll system satisfies local tax laws
• Testing of the screens for user friendliness
• Performance qualification of a product
• Ensuring a certain percentage of code coverage for a product.

UNIT- IV

7. a) List and explain the roles and responsibilities of usability testing. CO4 (08)
b) What are the factors that drive the choice and prioritization of features to be tested. CO4 (07)
c) Discuss Test management and Test process. CO4 (05)
8. a) i. What type of people are best suited to perform usability testing. CO4 (10)
ii. Explain with a neat diagram the phases and activities of usability testing.
b) What should be the contents of a test incident report, keeping in mind the goal that the defects found in a test should eventually be fixed? CO4 (10)

UNIT- V

9. a) Define defect and state its classification. CO5 (05)
b) Differentiate between defect priority and defect severity. CO5 (05)
c) Explain in details of Mantis and Bugzilla tools for bug tracking. CO5 (10)
10. a) With a neat diagram explain the steps in a metrics program. CO5 (10)
b) Explain with a neat diagram the various components of test automation. CO5 (10)



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SEMESTER END EXAMINATIONS - JANUARY 2018

Course & Branch : **Master of Computer Applications**
Subject : **Software Testing**
Subject Code : **MCAE26**

Semester : **V**
Max. Marks : **100**
Duration : **3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT-I

- What is Software Testing? Identify how to do the Test Analysis and Design? CO1 (10)
 - List the Specification-Based test Techniques and Explain in details of Equivalence Partitioning with its importance. CO1 (10)
- Write Test conditions for Considering Mandatory Ten digits Mobile phone number field with 'Submit' button, 'OK' button and 'Clear' button. Apply Boundary Value and Equivalence Partitioning technique. CO1 (10)
 - Write the test conditions to avoid Equivalence Partitioning Errors? Explain in details of Test Implementation and Execution. CO1 (10)

UNIT - II

- Explain with suitable examples positive and negative testing in black box testing. CO2 (10)
 - What is use case scenarios? Give the actor and system response in use case for ATM cash withdrawal scenario. CO2 (10)
- Explain in detail how code coverage testing happens in white box testing. CO2 (10)
 - Explain the importance of black box testing and state when is it necessary. CO3 (10)

UNIT - III

- Write the difference between Functional Versus Non-Functional Testing. CO1 (10)
 - List and explain the methodology for doing Performance testing. CO1 (10)
- Explain with an example of selecting Test Cases for Acceptance Testing. CO1 (10)
 - List the methodology for doing Regression Testing. And Discuss Resetting the Test Cases for Regression Testing. CO1 (10)

UNIT - IV

- What should a test summary report contain? CO4 (10)
 - What are the key objectives of setting up usability test lab? In what way is it different from using other traditional labs for testing? CO3 (10)

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8. a) What is the information in a defect repository? State its purpose and attributes. CO3 (10)
b) What are the various aspects of testing a test plan covers. CO4 (05)
c) What are the guidelines that are created and verified during usability testing? CO5 (05)

UNIT - V

9. a) List and explain the various kinds Priority and Severity bugs. CO4 (10)
b) What is Test Automation? Explain the problems Test automation can address. CO3 (10)
10. a) List the Criteria for selecting Test Tools, and write the Steps for tool Selection and Deployment. CO3 (10)
b) Explain Design and Architecture for Automation. CO3 (05)
c) Write differences between the bug tracking tools Mantis and Bugzilla. CO5 (05)

SUPPLEMENTARY SEMESTER EXAMINATIONS - JULY/AUGUST 2018

Course & Branch : **Master of Computer Applications**
Subject : **Software Testing**
Subject Code : **MCAE14**

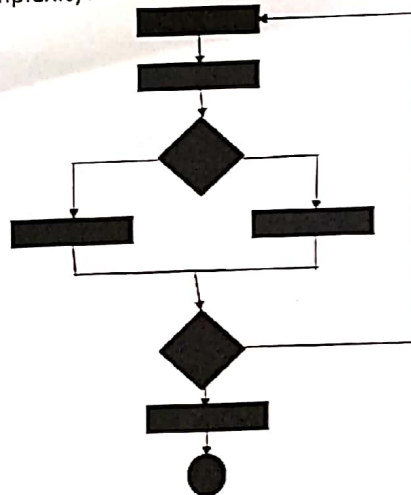
Semester : **IV**
Max. Marks : **100**
Duration : **3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT- I

- Write test conditions for considering mandatory ten digits mobile phone number field with one submit button. Apply boundary value and equivalence partitioning technique. CO1 (10)
 - List any two specifications based techniques and explain equivalence partitioning. CO1 (10)
- i. Convert the following flowchart into flowgraph and calculate its cyclomatic complexity. CO1 (10)



- ii. Explain how test is implemented and executed. CO1 (10)
- i. List the fundamental principles of testing.
 - ii. Define Software Testing. Explain the Software Testing Process.

UNIT - II

- What is integration testing? Classify the different methods in integration testing. CO2 (10)
 - Explain the scenario testing with suitable example. CO2 (06)
 - Compare white box testing and black box testing. CO2 (04)
- Discuss the methods to achieve static testing? List the advantages of using static testing. CO2 (10)
 - Explain the code complexity testing with an example. CO2 (06)
 - Express the need for white box testing technique. CO2 (04)

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UNIT- III

5. a) List the methodology for doing regression testing. Discuss resetting the test cases for regression testing. CO3 (10)
b) Explain with a neat diagram the process for performance testing. CO3 (10)
6. a) Write the typical entry/exit criteria for the following non - functional type of tests with examples. CO3 (08)
i. Scalability
ii. Performance test
iii. Reliability
iv. Stress.
b) How do you select test cases for acceptance testing and state how acceptance tests are executed. CO3 (07)
c) Discuss the types of regression testing. CO3 (05)

UNIT- IV

7. a) Explain the test plan template. CO4 (10)
b) Describe how to do test reporting? CO4 (05)
c) What is the information in a defect repository? State its purpose and attributes. CO4 (05)
8. a) What is aesthetics testing? Explain the basic accessibility testing. CO4 (10)
b) What is usability testing? Identify the quality factors for usability. CO4 (05)
c) What are the contents of a test case database? CO4 (05)

UNIT- V

9. a) Explain design and architecture for automation. CO5 (10)
b) What is a defect in software testing? What are the various defect classifications and what does they mean. CO5 (10)
10. a) Write short notes on selenium IDE. CO5 (04)
b) With a neat diagram explain the steps in a metrics program. CO5 (10)
c) Compare Mantis and Bugzilla bug tracking tools. CO5 (06)
