

[Total No. of Questions - 9] [Total No. of Printed Pages - 3]
(2063)

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M.Tech 2nd Semester Examination
Software Quality and Testing
MT-205

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary continuation sheet will be issued.

Note : Attempt all question. Attempt any one in question 1 to 8. Attempt any 5 in question 9.

1. Write a note on categorization of various testings into static and dynamic testing. Give reason of your categorization. (10)

OR

Explain the advantages and disadvantages of testing? Why do we say that complete testing is impossible? (10)

2. Explain any 5 terms:
- (a) Smoke testing (b) Regression testing
(c) Mutation testing (d) Slice splicing
(e) Recovery testing (f) Compliance testing
(g) Stress Analysis (h) Equivalence Testing (5×2=10)
3. What is Software Quality Assurance (SQA)? What are the objectives and goals of SQA? Illustrate. (10)

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OR

What is the importance of technical reviews in software development. What are the various activities during technical reviews?

(5+5)

4. White box testing is complementary to Black box testing not alternative. Why? Give an example to prove your statement.

(10)

OR

(a) What is the role of risk matrix in test cases reduction?

(b) What are the limitations of basic state model? What is a state chart. Explain with an example.

(5+5)

5. Find cyclomatic complexity of a program to find the largest of three numbers. Also list the test cases for condition coverage.

(10)

OR

Which integration testing approach is beneficial for object-oriented projects? Give reasons for your answer.

(10)

6. What are the salient features of graphical user interface testing? How is it different from class testing?

(10)

OR

What is the significance of Software Quality Attributes? Discuss in detail on various Software Quality Attributes.

(10)

7. (a) Discuss the features of CASE tools?

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- (b) Explain testing tools and their characteristics in detail. **(5+5)**

OR

What are guidelines for selecting testing tools?
Explain various dynamic testing tools. **(5+5)**

8. What is ISO 9001 and how it is applied to software context? **(10)**

OR

Compare various Software Quality models →
Mc Call, Boehm, Capability Maturity, ISO 9126. **(10)**

9. (a) What is purpose of Data Flow testing?
(b) Why LOC is considered bad parameter for measuring effort estimation?
(c) What is importance of stubs and drives in integration testing?
(d) What are the main objectives of test case design?
(e) Define spike testing?
(f) What are sequence diagrams?
(g) Explain IBM Rational Software Architect tool and its features.
(h) Differentiate between:
– alpha and Beta testing
– green and red box testing. **(4×5=20)**