

MCQ 1

[Easy] Question: What is the primary purpose of mutation testing?

- A) To improve code performance
- B) To evaluate the effectiveness of test cases
- C) To introduce bugs into the code
- D) To generate test cases automatically

Correct Answer: B

MCQ 2

[Easy] Question: What is a "mutant" in the context of mutation testing?

- A) A type of software bug
- B) A modified version of the original program
- C) A test case designed to kill other tests
- D) A special type of debugging tool

Correct Answer: B

MCQ 3

[Medium] Question: What does it mean when a mutant is "killed"?

- A) The mutant has caused a system crash
- B) The mutant has been removed from the code
- C) A test case has failed when run against the mutant
- D) A test case has passed when run against the mutant

Correct Answer: C

MCQ 4

[Easy] Question: What is the starting point in the mutation testing process?

- A) Creating mutants

- B) Running test cases on the mutated program
- C) The original program (P) and its test cases (T)
- D) Live mutants analysis

Correct Answer: C

MCQ 5

[Hard] Question: If a mutant survives (is not killed), what does this indicate about the test suite?

- A) The test suite is highly effective
- B) The test suite has redundant test cases
- C) The test suite is weak and may not catch subtle bugs
- D) The mutant is not a valid modification

Correct Answer: C

MCQ 6

[Medium] Question: Which type of mutation testing focuses on modifying conditional statements' logical operators?

- A) Statement Mutation Testing
- B) Logical Mutation Testing
- C) Value Mutation Testing
- D) Program Mutation Testing

Correct Answer: B

MCQ 7

[Medium] Question: Which type of mutation testing modifies literal values or constants in the code?

- A) Value Mutation Testing
- B) Statement Mutation Testing
- C) Logical Mutation Testing

D) Constant Mutation Testing

Correct Answer: A

MCQ 8

[Easy] Question: What does Statement Mutation Testing involve?

- A) Changing logical operators
- B) Modifying entire statements or blocks of code
- C) Altering literal values or constants
- D) Removing entire functions

Correct Answer: B

MCQ 9

[Hard] Question: Which industry would most likely benefit from using mutation testing due to the critical nature of software reliability?

- A) E-commerce
- B) Social Media
- C) Healthcare
- D) Gaming

Correct Answer: C

MCQ 10

[Medium] Question: How can mutation testing be used in code reviews?

- A) To identify syntax errors
- B) To ensure changes don't introduce weak tests
- C) To optimize code performance
- D) To automate the code review process

Correct Answer: B

MCQ 11

[Easy] Question: What is one of the advantages of mutation testing listed in the text?

- A) Reduces development time
- B) Improves test suite effectiveness
- C) Simplifies debugging
- D) Automates code generation

Correct Answer: B

MCQ 12

[Medium] Question: How does mutation testing help identify redundant test cases?

- A) By highlighting tests that don't contribute to error detection
- B) By generating new test cases automatically
- C) By analyzing code complexity
- D) By measuring code coverage

Correct Answer: A

MCQ 13

[Easy] Question: Mutation testing encourages better test case design by:

- A) Reducing the number of test cases needed
- B) Automating test case generation
- C) Revealing untested scenarios
- D) Simplifying the testing process

Correct Answer: C

MCQ 14

[Hard] Question: According to the text, in which application within Defense Systems is mutation testing used?

- A) Personnel management
- B) Budget allocation
- C) Navigation and targeting software
- D) Supply chain logistics

Correct Answer: C

MCQ 15

[Medium] Question: In Healthcare Systems, mutation testing can help ensure the accuracy of what?

- A) Hospital billing systems
- B) Medical software in devices and patient management systems
- C) Appointment scheduling software
- D) Staff payroll systems

Correct Answer: B

MCQ 16

[Hard] Example given for Healthcare Systems application of mutation testing is altering:

- A) Patient records
- B) Doctor's schedules
- C) Dosage calculations in drug delivery systems
- D) Hospital room assignments

Correct Answer: C

MCQ 17

[Easy] Keyur's student ID is:

- A) 16010421072
- B) 16010421073
- C) 16010421075
- D) Not mentioned

Correct Answer: B

MCQ 18

[Easy] Who wrote this document?

- A) Keyur
- B) Karan
- C) Tirth
- D) All of the above

Correct Answer: D

MCQ 19

[Medium] What is 'P' in the mutation testing process?

- A) Mutated Program
- B) Original Program
- C) Test Cases
- D) None of the above

Correct Answer: B

MCQ 20

[Medium] What is 'P' in the mutation testing process?

- A) Mutated Program
- B) Original Program

C) Test Cases

D) None of the above

Correct Answer: A

MCQ 21

[Easy] How many types of mutation testing are discussed in the text?

A) 2

B) 3

C) 4

D) 5

Correct Answer: B

MCQ 22

[Hard] Mutation testing is beneficial when integrated into:

A) Continuous Integration (CI)

B) Continuous Delivery (CD)

C) Agile Development

D) Waterfall model

Correct Answer: A

MCQ 23

[Medium] Which of the following is NOT a reference link provided in the text?

A) <https://www.geeksforgeeks.org/software-testing-mutation-testing/>

B) https://www.wikipedia.org/wiki/Mutation_testing

C)

https://www.researchgate.net/publication/310773886_Mutation_Testing_Techniques_A_Comparative_Study

D) <https://www.javatpoint.com/mutation-testing>

Correct Answer: B

MCQ 24

[Easy] Mutation testing helps developers create:

- A) Simpler test cases
- B) More comprehensive test cases
- C) Fewer test cases
- D) Automated test cases

Correct Answer: B

MCQ 25

[Hard] The given text primarily focuses on:

- A) Code Optimization Techniques
- B) Software Testing Methodologies
- C) Debugging Strategies
- D) Project Management Practices

Correct Answer: B