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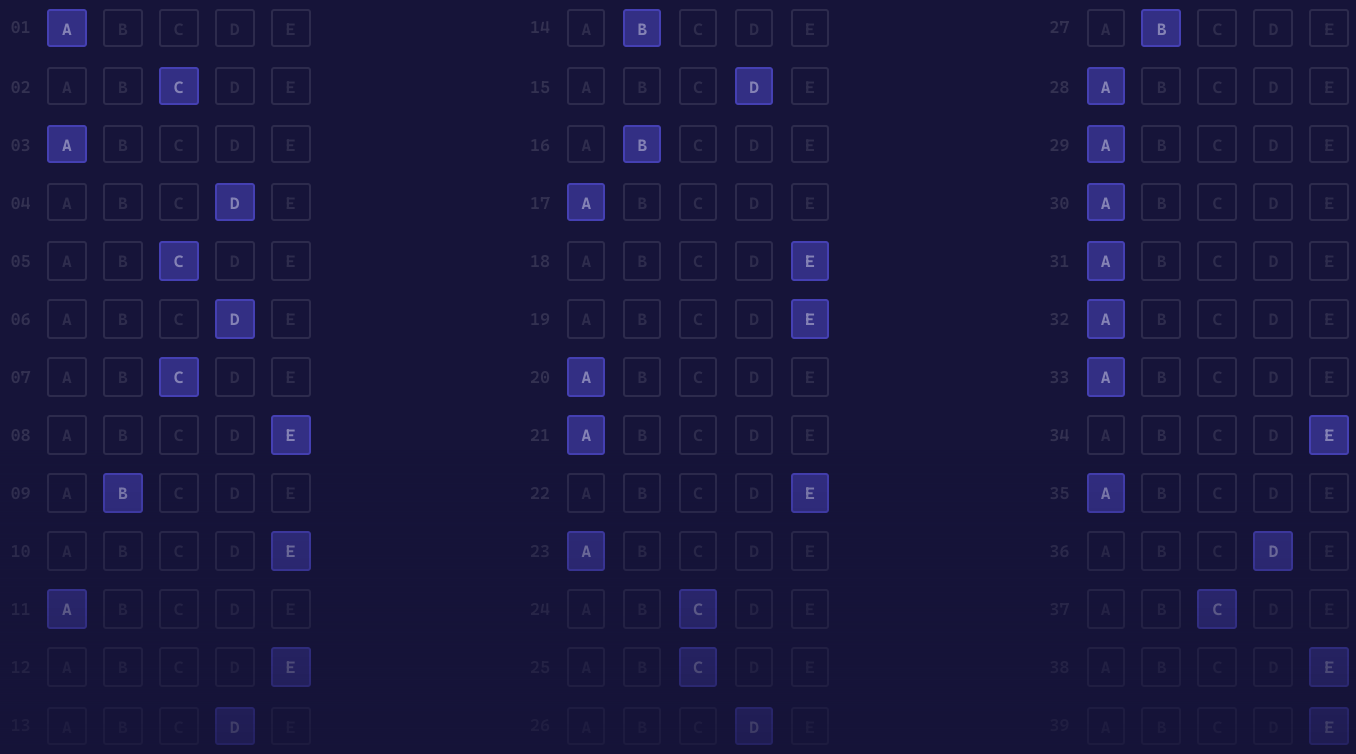

PRACTICE QUESTIONS

KSTQB

CTAI

ISTQB AI Testing (CT-AI) for Native English Speaker

EDITION	QUESTIONS	FORMAT
Demo	9	Limited Edition PDF

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Before you begin

What this is

9 practice questions for KSTQB `CTAI`, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, `CTAI`
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

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QUESTION 1 SINGLE CHOICE

Which of the following is a quality characteristic specifically associated with AI-based systems and not typically emphasized in testing of traditional systems?

A Functional completeness

B Performance efficiency

C Explainability

D Maintainability

ANSWER C

WHY Explainability is a quality characteristic introduced specifically for AI-based systems because the decisions made by ML models often cannot be understood by inspecting source code alone. Functional completeness, performance efficiency and maintainability are already covered for traditional systems in ISO/IEC 25010, so they are not unique to AI testing.

QUESTION 2 SINGLE CHOICE

A bank deploys a credit-scoring ML model. Regulators require that the testers be able to describe, in human-understandable terms, why a particular applicant was rejected. Which AI quality characteristic is being tested?

A Robustness

B Bias fairness

C Explainability

D Functional safety

ANSWER C

WHY The ability to provide a human-understandable justification for an AI system's output is the quality characteristic of explainability. Robustness concerns resilience to perturbations, bias fairness concerns equitable treatment of groups, and functional safety concerns safe operation in safety-critical contexts.

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QUESTION 3 SINGLE CHOICE

Which testing approach is most appropriate when a tester has only a very small set of labeled examples for an ML model and wants to estimate the model's generalization performance?

A Pairwise testing

B A/B testing in production

C Cross-validation (e.g., k-fold)

D Mutation testing of the training code

ANSWER C

WHY When labeled data is scarce, k-fold cross-validation makes efficient use of the available data by rotating train/test splits, giving a more stable estimate of generalization. Pairwise testing is for combinatorial input testing of deterministic systems. A/B testing requires live traffic and many users. Mutation testing targets source code, not trained models.

QUESTION 4 SINGLE CHOICE

An e-commerce company retrains its product-recommendation model every week using the most recent week's customer behavior data. After retraining, the model performs worse on long-term customer segments. Which AI testing concept best explains this concern?

A Data leakage from the validation set

B Overfitting on the training epoch count

C Sampling bias introduced by recent-only data

D Adversarial perturbation of the input

ANSWER C

WHY Using only the most recent week's data introduces sampling bias: the training set no longer represents the full population of customers (e.g., seasonal shoppers, dormant accounts). This sampling bias leads to degraded performance on under-represented segments. Data leakage and adversarial perturbation describe unrelated problems.

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QUESTION 5 SINGLE CHOICE

After deployment, a facial-recognition system's accuracy gradually degrades over several months as users change their hairstyles, wear masks, or age. Which phenomenon is the system experiencing?

A Underfitting

B Concept drift

C Label leakage

D Hyperparameter drift

ANSWER B

WHY Concept drift occurs when the statistical relationship between inputs and the target variable changes over time, so a model trained on past data becomes less accurate. Underfitting is a static-training issue. Label leakage involves training labels being informed by test data. Hyperparameter drift is not a standard term; hyperparameters are typically fixed at training time.

QUESTION 6 SINGLE CHOICE

A hiring-screening model is found to systematically rank resumes from one demographic group lower than equally qualified resumes from another group, despite identical qualifications. Which AI quality characteristic is being violated?

A Explainability

B Functional correctness

C Performance efficiency

D Bias and fairness

ANSWER D

WHY Systematic disparate treatment of equally qualified candidates from different groups is a violation of the bias and fairness quality characteristic. Functional correctness would concern whether outputs match specifications in general; performance efficiency concerns resource use; explainability concerns the understandability of outputs.

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QUESTION 7 SINGLE CHOICE

Why is reproducibility particularly challenging when testing AI-based systems compared with traditional software?

A Because AI systems have no version-controlled source code

B Because training involves stochastic processes and large, evolving datasets

C Because AI systems cannot be deployed in virtual machines

D Because AI test cases cannot be automated

ANSWER B

WHY Reproducibility is harder for AI systems because training often involves randomness (e.g., weight initialization, mini-batch shuffling, dropout) and depends on the exact version and contents of large training datasets. AI code is typically version-controlled like any other software, and AI test cases can and should be automated.

QUESTION 8 MULTIPLE CHOICE

A tester is designing test cases for an image-classifier that distinguishes cats from dogs. Which of the following are appropriate AI-specific test approaches? (Choose two.)

A Pairwise testing of categorical configuration parameters

B Adversarial testing with perturbed inputs designed to cause misclassification

C Metamorphic testing using transformations such as rotation or brightness changes where the predicted class should remain stable

D Statement coverage of the inference source code as the sole acceptance criterion

ANSWER B · C

WHY Adversarial testing and metamorphic testing are both well-established AI-specific test approaches: adversarial testing probes robustness against intentionally crafted perturbations, while metamorphic testing uses input transformations whose expected output relationship is known (e.g., a slightly rotated cat should still be classified as a cat). Pairwise testing is a general combinatorial technique not specific to AI. Relying solely on statement coverage is inadequate because high code coverage does not guarantee behavioral correctness for ML models.

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QUESTION 9 MULTIPLE CHOICE

Which of the following are AI-specific quality characteristics defined for AI-based systems? (Choose two.)

A Functional suitability

B Flexibility

C Explainability

D Bias and fairness

ANSWER **C · D**

WHY Explainability and bias/fairness are AI-specific quality characteristics introduced because ML systems can produce opaque or inequitable outcomes. Functional suitability and flexibility are general ISO/IEC 25010 characteristics that apply to all software systems, not specifically to AI.

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