Your grade: 80%

Your latest: **80%** • Your highest: **80%** • To pass you need at least 70%. We keep your highest score.

Next item →

1. What is the purpose of generative adversarial networks (GANs)? 1 / 1 point

- (•) Creating realistic data samples
- ( ) Generating coherent and context-appropriate text
- ( ) Generating melodies, harmonies, and musical compositions
- ( ) Creating high-quality images

✓ **Correct**
Correct! GAN is a generative modeling technique that is used to create realistic data samples.

2. Which of the following would be one of the ways generative AI can help data science professionals? 1 / 1 point

- (•) Augment their data sets using generative AI to create synthetic data.
- ( ) Synthesize medical images.
- ( ) Generate human-like text.
- ( ) Generate realistic environments, characters, and game levels.

✓ **Correct**
Correct! Data scientists can augment their data sets using generative AI to create synthetic data.

3. Which tool can be used for image data augmentation? 1 / 1 point

- ( ) Dialogflow
- ( ) Magenta
- ( ) Autoencoders
- (•) CycleGAN

✓ **Correct**
Correct! CycleGAN can perform image-to-image translation.

4. During problem definition phase of data science lifecycle, how does generative AI help in idea generation? 1 / 1 point

- ( ) By filling in missing values in data sets to improve data quality and model training accuracy
- (•) By mimicking existing product descriptions, marketing campaigns, or successful solutions in other industries
- ( ) By continuously monitoring real-time data with a generative model trained on the initial training data to detect data drift and trigger model retraining when necessary
- ( ) By generating adversarial or edge cases to test the model's robustness against malicious attacks or unusual scenarios

✓ **Correct**
Correct!Generative AI can help brainstorm new ideas and solutions by mimicking existing product descriptions, marketing campaigns, or successful solutions in other industries.

5. Which generative AI model excels in handling sequential data? 1 / 1 point

- ( ) Variational autoencoders (VAEs)
- ( ) Generative adversarial networks (GANs)
- ( ) Flow-based models
- (•) Autoregressive models

✓ **Correct**
Correct! Autoregressive models excel in handling sequential data, such as text and time series.

6. Which generative AI model can generate coherent and grammatically correct poetry, scripts, and email? 1 / 1 point

- ( ) Generative adversarial networks (GANs)
- ( ) Variational autoencoders (VAEs)
- (•) Autoregressive models
- ( ) Flow-based models

✓ **Correct**
Correct! Autoregressive models can generate coherent and grammatically correct poetry, scripts, and emails.

7. Which generative AI model generates new data that adheres to the original probability distribution? 0 / 1 point

- (•) Variational autoencoders (VAEs)
- ( ) Autoregressive models
- ( ) Generative adversarial networks (GANs)
- ( ) Flow-based models

✗ **Incorrect**
Incorrect. Review the Types of Generative AI Models video.

8. Which of the following is a data consideration while using generative AI in industries? 0 / 1 point

- ( ) Employing interpretability techniques, such as feature attribution and partial dependence plots
- (•) Evaluating the data for potential biases and implementing techniques to mitigate bias, such as fairness metrics and adversarial training
- ( ) Adhering to data privacy regulations, employing encryption techniques, and establishing clear data access protocols
- ( ) Establishing mechanisms for addressing potential biases or ethical concerns

✗ **Incorrect**
Incorrect. Review the Considerations While Using Generative AI in Industries video.

9. Which generative AI tool can augment semi-structured data sets by generating realistic text descriptions and code snippets? 1 / 1 point

- ( ) Synthetic Data Vault (SDV)
- ( ) StyleGAN2
- ( ) Conditional Generative Adversarial Network (CTGAN)
- (•) Copilot

✓ **Correct**
Correct! The Copilot generative AI tool can augment semi-structured datasets by generating realistic text descriptions and code snippets.

10. Which prompt can you use for the following query: 1 / 1 point

UPDATE Boston_house_price SET ZN = NULL WHERE ZN = 0?

- ( ) Update all values in the ZN column.
- ( ) Find all null values in the ZN column.
- ( ) Find all rows with zero value.
- (•) Replace the zero values in the ZN column with NULL.

✓ **Correct**
Correct! You can type this prompt for the query to replace the zero value in the ZN column with NULL.

11. How do generative AI models address the issue of inaccurate results produced by traditional imputation methods? 1 / 1 point

- ( ) Learning complex relationships between languages and translating accurately
- ( ) Learning latent code and capturing essential features
- ( ) Learning the boundaries of the standard data distribution and identifying outliers
- (•) Learning intricate patterns within the data and generating plausible values

✓ **Correct**
Correct! Generative AI models, particularly variational autoencoders (VAEs), offer a promising solution by learning the intricate patterns within the data and generating plausible values that align with the observed data.

12. Which of the following is a cultural challenge when using generative AI? 1 / 1 point

- (•) Trust and transparency
- ( ) Copyright and IP issues
- ( ) Lack of standardization
- ( ) Data quality

✓ **Correct**
Correct! Establishing trust, transparency, and a culture of continuous learning and adaptation may also be challenging.

13. How can you use visualization in a generative AI tool to verify outliers? 0 / 1 point

- ( ) Use color coding.
- (•) Use annotation.
- ( ) Generate histograms.
- ( ) Generate box plots.

✗ **Incorrect**
Incorrect. Review the Generative AI for Data Visualization video.

14. Which generative AI tool is an open-source automated machine learning (AutoML) library that simplifies the development and deployment of machine learning models? 1 / 1 point

- (•) AutoGluon
- ( ) Google Vertex AI
- ( ) H2O Driverless AI
- ( ) DataRobot

✓ **Correct**
Correct! AutoGluon is an open-source automated machine learning (AutoML) library that simplifies the development and deployment of machine learning models.

15. Which generative AI analysis identifies potential patterns and relationships in the data that may warrant further investigation? 1 / 1 point

- ( ) Univariate
- ( ) Bivariate
- ( ) Feature engineering
- (•) Hypothesis generation

✓ **Correct**
Correct! Generative AI can assist in hypothesis generation by identifying potential patterns and relationships in the data that may warrant further investigation.

16. Which technique of model consideration is used to improve interpretability? 1 / 1 point

- ( ) Manipulative model inputs
- (•) Feature attribution
- ( ) Imaging data
- ( ) Perpetuate biases

✓ **Correct**
Correct! To improve interpretability, data scientists use techniques such as feature attribution and partial dependence plots.

17. Which of the following is an organizational challenge while using generative AI? 1 / 1 point

- ( ) Data quality
- (•) Change management
- ( ) Continuous learning
- ( ) Risk aversion

✓ **Correct**
Correct! Change management is an organizational challenge while using generative AI.

18. Which of the following is a simulation and data augmentation generative AI tool? 1 / 1 point

- ( ) Jukebox
- ( ) Autoencoders
- (•) Unity ML-Agents
- ( ) StyleGAN

✓ **Correct**
Correct! Unity ML-Agents can create intelligent agents for simulations.

19. Which of the following is an anomaly detection generative AI tool? 1 / 1 point

- ( ) Dialogflow
- (•) Isolation Forest
- ( ) CycleGAN
- ( ) DALL-E

✓ **Correct**
Correct! Isolation Forest can effectively handle anomaly detection in high-dimensional data.

20. How do generative AI tools help data scientists in data exploration and preparation? 0 / 1 point

- ( ) Can detect and remove anomalies, fill in missing values, and handle outliers
- ( ) Can generate new features or representations of the data
- (•) Can help with data augmentation by generating synthetic data to balance imbalanced data sets and enrich existing data sources
- ( ) Can generate personalized recommendations, create realistic simulations, or produce creative content

✗ **Incorrect**
Incorrect. Review the reading: Leveraging Generative AI in Data Science Lifecycle.