



# Quiz review

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Time taken	15 mins 26 secs
Marks	10.00/10.00
Grade	100.00 out of 100.00

## Question 1

Correct  
Mark 1.00 out of 1.00

In the context of generative models, what does  $P(x)$  represent?

- ☐ The posterior probability of  $x$
- ☒ The probability distribution of the data  $x$  ✓
- ☐ The conditional probability of  $x$  given  $y$
- ☐ The likelihood of  $x$
- ☐ The joint probability of  $x$  and  $y$

The correct answer is: The probability distribution of the data  $x$

## Question 2

Correct  
Mark 1.00 out of 1.00

Which statement best differentiates generative from discriminative models?

- ☐ Generative models cannot be trained with labeled data
- ☐ Generative models are newer than discriminative models
- ☐ Generative models are only for images, discriminative for text
- ☐ Both models serve the same purpose
- ☒ Generative models learn the joint probability distribution, while discriminative models learn the conditional probability ✓

The correct answer is: Generative models learn the joint probability distribution, while discriminative models learn the conditional probability



**Question 3**

Correct

Mark 1.00 out of 1.00

Which of the following is crucial for understanding the behavior of generative models?

- ☒ Probability distributions and likelihood ✓
- ☐ Backpropagation
- ☐ Convolutional layers
- ☐ Gradient descent
- ☐ Activation functions

The correct answer is: Probability distributions and likelihood

**Question 4**

Correct

Mark 1.00 out of 1.00

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Which model type is primarily concerned with determining  $P(y | x)$ ?

- ☐ Probability Distribution
- ☒ Discriminative Model ✓
- ☐ Bayesian model
- ☐ Both Generative and Discriminative
- ☐ Generative Model

The correct answer is: Discriminative Model

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**Question 5**

Correct

Mark 1.00 out of 1.00

What is the primary goal of generative models in AI?

- ☐ To classify data
- ☐ To analyze data distributions
- ☐ To reduce computational cost
- ☒ To generate new data samples ✓
- ☐ To optimize algorithms

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The correct answer is: To generate new data samples

**Question 6**

Correct

Mark 1.00 out of 1.00

What does likelihood measure in the context of a model?

- ☐ The generative capacity of the model
- ☐ The complexity of the model
- ☒ How well the model explains the observed data ✓
- ☐ The probability of the model being correct
- ☐ The error rate of the model

The correct answer is: How well the model explains the observed data

**Question 7**

Correct

Mark 1.00 out of 1.00

Generative models are primarily used for which of the following tasks?

- ☒ Generating new data samples similar to the input data ✓
- ☐ Clustering
- ☐ Classification
- ☐ Reinforcement learning
- ☐ Regression

The correct answer is: Generating new data samples similar to the input data

**Question 8**

Correct

Mark 1.00 out of 1.00

In the context of models, what does  $P(x | y)$  typically represent?

- ☒ The probability of x given y ✓
- ☐ The distribution of y
- ☐ The probability of y given x
- ☐ The likelihood of y
- ☐ The generative capacity of x

The correct answer is: The probability of x given y

**Question 9**

Correct

Mark 1.00 out of 1.00

If a model is better at distinguishing between classes rather than generating data, it is likely a \_\_\_\_\_.

- ☐ Likelihood model
- ☐ Generative model
- ☒ Discriminative model ✓
- ☐ Joint probability model
- ☐ Bayesian model

The correct answer is: Discriminative model

**Question 10**

Correct

Mark 1.00 out of 1.00

Which of the following is NOT a generative model?

- ☒ Support Vector Machines ✓
- ☐ Gaussian Mixture Models
- ☐ Generative Adversarial Networks
- ☐ Restricted Boltzmann Machines
- ☐ Variational Autoencoders

The correct answer is: Support Vector Machines

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