

1. What is Artificial Intelligence (AI)?

A branch of
computer science
focused on
building systems
that reason,
learn, and act
autonomously.

2. What is Machine Learning?

A subfield of AI
that enables
models to learn
patterns from
data without
explicit
programming.

3. What is Deep Learning?

A subset of ML
that uses neural
networks to learn
complex patterns
in large datasets.

4. What is Semi-Supervised Learning?

A learning
method using a
small amount of
labeled data and
a large amount of
unlabeled data.

5. What is Generative AI?

A type of AI that creates new content like text, images, audio, or video based on patterns from training data.

6. What is the difference between supervised and unsupervised learning?

Supervised vs Unsupervised

Supervised learning uses labeled data to predict outcomes; unsupervised learning finds patterns in unlabeled data.

Supervised vs Unsupervised

7. Example of Supervised Learning

Supervised vs Unsupervised

Predicting tip amounts based on bill total and delivery type.

Supervised vs Unsupervised

8. Example of Unsupervised Learning

Supervised vs Unsupervised

Clustering
employees based
on income and
tenure to find
patterns.

Supervised vs Unsupervised

9. What is Error in Supervised ML?

Supervised vs Unsupervised

The difference
between the
model's
prediction and the
actual output.

Supervised vs Unsupervised

10. What is a Discriminative Model?

Generative vs Discriminative Models

A model that
classifies or
predicts labels for
input data.

Generative vs Discriminative Models

11. What is a Generative Model?

Generative vs Discriminative Models

A model that
generates new
data based on a
learned
distribution of
input data.

12.

Discriminative Example

Generative vs Discriminative Models

Classifies
whether an image
is a dog or not.

13. Generative Example

Generative vs Discriminative Models

Generates a new
image of a dog
from learned
data.

14. When is it NOT Generative AI?

Generative vs Discriminative Models

When the output
is a class,
number, or
probability (e.g.
spam or not
spam).

15. When IS it Generative AI?

Generative vs Discriminative Models

When the output
is natural
language, audio,
images, or video.

**16. What is the
formula $Y =$
 $f(X)$?**

It shows how output Y is a function of inputs X through a model or function f .

17. What is a Foundation Model?

A large AI model
trained on vast
data and
adaptable to
many tasks.

18. What is a Prompt?

A text input used
to guide and
control a model's
output.

19. What is Prompt Design?

The practice of
crafting prompts
that elicit desired
outputs from a
GenAI model.

20. What are Hallucinations in AI?

Nonsensical or
incorrect outputs
generated due to
poor data or
insufficient
context.

21. What are the main text-input model types?

**Text-to-text,
text-to-image,
text-to-video,
text-to-3D,
text-to-task.**

Model Types & Applications

22. Example of Text-to-Text

Model Types & Applications

Model translates
language or
rewrites text.

23. Example of Text-to-Image

Model Types & Applications

Model generates
an image based
on a short text
prompt.

24. Example of Text-to-Video

Model Types & Applications

Model creates a
video sequence
from a sentence
or script.

25. Example of Text-to-3D

Model Types & Applications

Model produces a
3D object from a
textual
description.

26. Example of Text-to-Task

Model performs a task like navigating a UI or answering a question from text.

27. What is Gemini?

Google Cloud & Gemini

Google's
multimodal AI
model that
processes text,
images, audio,
and code.

Google Cloud & Gemini

28. What is Vertex AI Studio?

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A tool to explore,
fine-tune, and
deploy GenAI
models on
Google Cloud.

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29. What is Vertex AI Agent Builder?

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A tool to build
chatbots, search
tools, and digital
assistants with
minimal or no
code.

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30. How does GenAI help developers?

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Assists with
debugging,
translating code,
writing SQL, and
generating
documentation.

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31. What is the Model Garden?

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A collection of
foundation
models available
via Google
Cloud's Vertex AI
platform.

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