

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

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?

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

10. What is a Discriminative Model?

A model that
classifies or
predicts labels for
input data.

11. What is a Generative Model?

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

12.

Discriminative Example

Classifies
whether an image
is a dog or not.

13. Generative Example

Generates a new
image of a dog
from learned
data.

14. When is it NOT Generative AI?

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

15. When IS it Generative AI?

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.

22. Example of Text-to-Text

Model translates
language or
rewrites text.

23. Example of Text-to-Image

Model generates
an image based
on a short text
prompt.

24. Example of Text-to-Video

Model creates a video sequence from a sentence or script.

25. Example of Text-to-3D

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

28. What is Vertex AI Studio?

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

29. What is Vertex AI Agent Builder?

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

30. How does GenAI help developers?

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

31. What is the Model Garden?

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