

Started on Wednesday, 4 June 2025, 12:27 PM**State** Finished**Completed on** Wednesday, 4 June 2025, 12:42 PM**Time taken** 14 mins 48 secs**Marks** 17.00/30.00**Grade** 56.67 out of 100.00**Question 1**

Complete

Mark 1.00 out of 1.00

Which of the following is NOT a part of the MERN stack?

- ☐ a. Node.js
- ☒ b. Ruby on Rails
- ☐ c. MongoDB
- ☐ d. Express.js

Question 2

Complete

Mark 0.00 out of 1.00

In MongoDB, which data type is used for document _id?

- ☒ a. String
- ☐ b. ObjectId
- ☐ c. Integer
- ☐ d. UUID

Question 3

Complete

Mark 0.00 out of 1.00

In Docker, what is the purpose of a volume?

- ☐ a. Mount environment variables
- ☒ b. Create isolated containers
- ☐ c. Build images
- ☐ d. Persist data outside containers

Question 4

Complete

Mark 1.00 out of 1.00

What type of learning does a GAN use?

- ☐ a. Unsupervised
- ☐ b. Supervised
- ☒ c. Adversarial
- ☐ d. Reinforcement

Question 5

Complete

Mark 1.00 out of 1.00

AUC-ROC is used to:

- ☒ a. Evaluate ranking of predictions
- ☐ b. Detect outliers
- ☐ c. Handle imbalanced datasets
- ☐ d. Compute feature importance

Question 6

Complete

Mark 0.00 out of 1.00

In PCA, the principal components are:

- ☒ a. The columns with highest variance
- ☐ b. Orthogonal directions of maximum variance
- ☐ c. Eigenvectors of the covariance matrix
- ☐ d. The rows of the original matrix

Question 7

Complete

Mark 0.00 out of 1.00

In Random Forest, what is 'bagging'?

- ☐ a. Normalizing predictions
- ☐ b. Combining gradient boosters
- ☒ c. Using smaller trees
- ☐ d. Training models on bootstrap samples

Question 8

Complete

Mark 0.00 out of 1.00

What does SQL injection target?

- ☐ a. Server file system
- ☐ b. JavaScript variables
- ☐ c. Database query layer
- ☒ d. Authentication logic

Question 9

Complete

Mark 1.00 out of 1.00

Which of the following statements is true for Gradient Descent?

- ☐ a. It does not work with non-differentiable functions
- ☐ b. It increases the loss function
- ☒ c. It updates parameters using a learning rate
- ☐ d. It always finds the global minimum

Question 10

Complete

Mark 1.00 out of 1.00

What is the primary purpose of middleware in Express.js?

- ☒ a. Intercept and modify requests/responses
- ☐ b. Handle file uploads
- ☐ c. Monitor RAM usage
- ☐ d. Secure cookies

Question 11

Complete

Mark 0.00 out of 1.00

What does a high bias in a ML model indicate?

- ☒ a. The model is overfitting
- ☐ b. The model is underfitting
- ☐ c. The model is too complex
- ☐ d. The model has high variance

Question 12

Complete

Mark 0.00 out of 1.00

What happens in the virtual DOM when a state changes in React?

- ☐ a. No re-render happens
- ☒ b. Entire app is re-rendered
- ☐ c. Direct manipulation of the real DOM
- ☐ d. Comparison with previous virtual DOM (diffing)

Question 13

Complete

Mark 1.00 out of 1.00

What is the key difference between bagging and boosting?

- ☒ a. Boosting focuses on correcting errors of previous models
- ☐ b. Boosting uses random subsets
- ☐ c. Bagging reduces variance by averaging weak learners
- ☐ d. Bagging combines weak learners sequentially

Question 14

Complete

Mark 1.00 out of 1.00

Which of the following is NOT true about decision trees?

- ☐ a. They are prone to overfitting
- ☐ b. They are easy to visualize
- ☒ c. They require feature scaling
- ☐ d. They can handle both regression and classification

Question 15

Complete

Mark 1.00 out of 1.00

What does REST stand for?

- ☐ a. Remote Engine System Tuning
- ☐ b. Random Event Sync Tracker
- ☒ c. Representational State Transfer
- ☐ d. Real-time Entity Schema Transfer

Question 16

Complete

Mark 1.00 out of 1.00

Which deep learning architecture is best suited for image classification?

- ☒ a. CNN
- ☐ b. RNN
- ☐ c. Transformer
- ☐ d. GAN

Question 17

Complete

Mark 1.00 out of 1.00

What is JSX in React?

- ☐ a. JavaScript syntax validator
- ☐ b. jQuery-based syntax
- ☐ c. JSON over XML
- ☒ d. JavaScript and XML mix

Question 18

Complete

Mark 1.00 out of 1.00

What is the primary role of the activation function in a neural network?

- ☐ a. Increase gradient flow
- ☒ b. Introduce non-linearity
- ☐ c. Reduce input dimensionality
- ☐ d. Normalize outputs

Question 19

Complete

Mark 0.00 out of 1.00

What is the main idea behind k-fold cross-validation?

- ☒ a. Prune decision trees in k iterations
- ☐ b. Train with k different algorithms
- ☐ c. Use k hidden layers in a neural network
- ☐ d. Divide training set into k equal parts for testing

Question 20

Complete

Mark 1.00 out of 1.00

What does CORS handle?

- ☒ a. Cross-origin API access
- ☐ b. Server port binding
- ☐ c. Client certificate validation
- ☐ d. Compression of resources

Question 21

Complete

Mark 0.00 out of 1.00

Which Node.js module is used to create an HTTP server?

- ☐ a. net
- ☒ b. express
- ☐ c. http
- ☐ d. socket

Question 22

Complete

Mark 0.00 out of 1.00

What is the purpose of useRef in React?

- ☒ a. Manage local component state
- ☐ b. Store global context
- ☐ c. Handle component lifecycle
- ☐ d. Access DOM elements or persist values

Question 23

Complete

Mark 0.00 out of 1.00

What does the term "curse of dimensionality" refer to?

- ☐ a. Loss of gradient during backpropagation
- ☐ b. Overfitting in deep learning
- ☒ c. Too few features in model training
- ☐ d. Computational cost of high-dimensional data

Question 24

Complete

Mark 1.00 out of 1.00

What is the default port for MongoDB?

- ☐ a. 3306
- ☐ b. 8080
- ☐ c. 5432
- ☒ d. 27017

Question 25

Complete

Mark 1.00 out of 1.00

Which tool can be used for CI/CD in Full Stack pipelines?

- ☐ a. Postman
- ☒ b. Jenkins
- ☐ c. Docker Hub
- ☐ d. MongoDB Compass

Question 26

Complete

Mark 0.00 out of 1.00

L1 regularization encourages:

- ☐ a. Dense models
- ☐ b. Faster convergence
- ☐ c. Feature selection
- ☒ d. Feature scaling

Question 27

Complete

Mark 1.00 out of 1.00

Which of the following is a metric used for classification problems?

- ☒ a. Accuracy
- ☐ b. RMSE
- ☐ c. MAE
- ☐ d. MSE

Question 28

Complete

Mark 1.00 out of 1.00

What does the 'kernel trick' do in SVM?

- ☐ a. Reduces computation time
- ☐ b. Eliminates the need for support vectors
- ☒ c. Allows handling of non-linear separation
- ☐ d. Normalizes features

Question 29

Complete

Mark 0.00 out of 1.00

Which HTTP method is idempotent and safe?

- ☐ a. DELETE
- ☒ b. PATCH
- ☐ c. POST
- ☐ d. GET

Question 30

Complete

Mark 1.00 out of 1.00

In React, which hook is used to manage side-effects?

- ☐ a. useMemo
- ☐ b. useContext
- ☐ c. useReducer
- ☒ d. useEffect