wednesday

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Here are **20 MCQs** and **10 True/False questions** that comprehensively cover the key concepts from your file (Introduction to Machine Learning / CVision Lecture 1), with answers included.

✅ 20 Multiple Choice Questions (MCQs)

1. Traditional programming mainly relies on:

A. Data + Output → Program

B. Data + Program → Output

C. Output + Program → Data

D. Model + Data → Output

✅ **Answer: B**

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2. Machine learning differs from traditional programming because it:

A. Uses fixed rules only

B. Learns patterns from data

C. Does not require data

D. Always gives exact answers

✅ **Answer: B**

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3. In machine learning, a "task" refers to:

A. Hardware used

B. Problem the system is trying to solve

C. Dataset size

D. Programming language

✅ **Answer: B**

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4. Which of the following is a classification task?

A. Predicting house price

B. Predicting temperature

C. Identifying spam email

D. Predicting stock value

✅ **Answer: C**

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5. Regression is used when:

A. Output is categorical

B. Output is continuous

C. Data is unlabeled

D. Data is discrete only

✅ **Answer: B**

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6. Which is an example of regression?

A. Classifying emails

B. Predicting salary

C. Detecting fraud (yes/no)

D. Image labeling

✅ **Answer: B**

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7. Transcription tasks include:

A. Image classification

B. Converting speech to text

C. Clustering data

D. Predicting values

✅ **Answer: B**

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8. Machine translation involves:

A. Predicting numbers

B. Converting one language to another

C. Grouping data

D. Detecting anomalies

✅ **Answer: B**

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9. A dataset is:

A. A single value

B. A collection of examples

C. A model

D. An algorithm

✅ **Answer: B**

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10. An example in ML consists of:

A. Only labels

B. Only outputs

C. Features

D. Hardware components

✅ **Answer: C**

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11. Features are:

A. Final outputs

B. Measured properties of data

C. Programs

D. Labels

✅ **Answer: B**

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12. Accuracy is defined as:

A. Incorrect predictions

B. Correct predictions / total predictions

C. Training data size

D. Model complexity

✅ **Answer: B**

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13. Error rate is:

A. Correct predictions

B. Incorrect predictions proportion

C. Dataset size

D. Output type

✅ **Answer: B**

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14. Machine learning is useful when:

A. Problems are simple

B. Rules are clearly defined

C. Human expertise is unavailable

D. Data is small

✅ **Answer: C**

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15. Supervised learning requires:

A. No data

B. Labeled data

C. Only inputs

D. Random guessing

✅ **Answer: B**

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16. In classification, output is:

A. Continuous

B. Discrete

C. Random

D. Undefined

✅ **Answer: B**

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17. In regression, output is:

A. Discrete

B. Binary

C. Continuous

D. Unlabeled

✅ **Answer: C**

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18. Unsupervised learning:

A. Uses labeled data

B. Has a teacher

C. Finds patterns without labels

D. Predicts exact outputs

✅ **Answer: C**

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19. Clustering is an example of:

A. Supervised learning

B. Reinforcement learning

C. Unsupervised learning

D. Regression

✅ **Answer: C**

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20. Dimensionality reduction is used to:

A. Increase features

B. Reduce number of features

C. Add labels

D. Increase error

✅ **Answer: B**

✅ 10 True / False Questions

1. Machine learning can solve problems that are difficult to program manually.

✅ True

2. Classification predicts continuous values.

❌ False

3. Regression predicts numerical values.

✅ True

4. A dataset contains only one example.

❌ False

5. Features represent measurable properties of data.

✅ True

6. Supervised learning uses unlabeled data.

❌ False

7. Unsupervised learning has no correct output labels.

✅ True

8. Accuracy measures correct predictions.

✅ True

9. Error rate measures correct predictions.

❌ False

10. Clustering groups similar data points together.

✅ True

If you want, I can also:

✔️ Turn these into **exam sheet format (PDF/Word)**

✔️ Add **harder MCQs or case-based questions**

✔️ Generate **flashcards for quick revision**