CDAC DAI CCE Mock Test Solutions - 40 Questions

A1: Answer: B
Explanation: List is mutable; elements can be modified after creation.

A2: Answer: B
Explanation: Division of integers using / results in a float in Python.

A3: Answer: A
Explanation: def is used to define functions in Python.

A4: Answer: B
Explanation: Both x and y point to the same list, so changes via y affect x.

A5: Answer:
Explanation: Use try-except to catch ZeroDivisionError.

A6: Answer:
Explanation: break exits the loop prematurely when a condition is met.

A7: Answer: A
Explanation: open() is used to open files for reading or writing.

A8: Answer:
Explanation: List comprehension is a concise way to create lists, while for loops are more verbose.

A9: Answer: B
Explanation: Adding 4 to the set makes it {1,2,3,4}, so length is 4.

A10: Answer:
Explanation: Define the class with __init__ and greet method as shown.

A11: Answer: C
Explanation: Bubble Sort compares adjacent elements and takes $O(n^2)$ in worst case.

A12: Answer: B
Explanation: Stack follows Last-In-First-Out principle.

A13: Answer: B
Explanation: The last appended element 20 is popped first.

A14: Answer:
Explanation: Binary search divides the sorted array to find the target efficiently.

A15: Answer:
Explanation: A hash table stores key-value pairs for fast lookup, as in Python dictionaries.

A16: Answer: A
Explanation: Queue operates in First-In-First-Out order.

A17: Answer:
Explanation: Recursion is a function calling itself with a base case, like factorial computation.

A18: Answer:
Explanation: A tree is a graph with no cycles; graphs can have cycles.

A19: Answer: C
Explanation: Dijkstra’s algorithm finds the shortest path in weighted graphs.

A20: Answer: C
Explanation: get() with default value returns 3 when 'c' is missing.

A21: Answer:
Explanation: Supervised learning trains on labeled data to predict outcomes.

A22: Answer:
Explanation: MSE and MAE are common regression loss functions.

A23: Answer: False
Explanation: Deep learning isn't always superior; depends on data size and problem complexity.

A24: Answer:
Explanation: Overfitting occurs when a model memorizes noise; can be prevented with regularization or more data.

A25: Answer:
Explanation: Splitting helps evaluate model performance on unseen data.

A26: Answer: A
Explanation: Min-Max Scaling adjusts data to a specific range, usually [0,1].

A27: Answer:
Explanation: Learning rate controls how fast or slow the model learns during optimization.

A28: Answer:
Explanation: Classification assigns labels; clustering finds groups without labels.

A29: Answer: C
Explanation: Accuracy measures correct predictions over total predictions.

A30: Answer:
Explanation: from sklearn.preprocessing import StandardScaler

A31: Answer:
Explanation: Variance = sum of squared differences from the mean divided by n or (n-1).

A32: Answer:
Explanation: Even numbers are {2,4,6}, so probability = 3/6 = 1/2.

A33: Answer:
Explanation: Correlation shows how two variables change together in a linear fashion.

A34: Answer:
Explanation: Mean is average; median is the middle sorted value.

A35: Answer: True
Explanation: Probabilities of mutually exclusive events always sum to 1.

A36: Answer: C
Explanation: Matplotlib is used for plotting graphs and charts.

A37: Answer:
Explanation: fit() trains the model using data to find optimal parameters.

A38: Answer:
Explanation: Data preprocessing includes cleaning, normalizing, and transforming data for better modeling.

A39: Answer:
Explanation: Use pandas.read_csv to load CSV files into a DataFrame.

A40: Answer:
Explanation: .loc[] accesses data by labels, .iloc[] by index positions.