Subject: Quantitative Ability
Section: Data Analysis
Topic: Statistics
Sub-topic: Mode
Number of Questions: 4

Question 1:
A set of five distinct integers has a mode of 15. If the integers are in the range from 10 to 20 (inclusive), which of the following could be the complete set?

(A) {10, 12, 15, 15, 20}
(B) {11, 15, 15, 18, 19}
(C) {10, 14, 15, 16, 17}
(D) {13, 15, 15, 17, 17}

Correct Answer: (A) {10, 12, 15, 15, 20}

Explanation:
The mode is the value that appears most frequently in a set of data. In this case, the mode is 15, and hence 15 must appear more frequently than any other number in the set. Among the options, (A) and (D) both have 15 appearing twice. However, (D) has 17 appearing twice, making 17 a candidate for the mode as well, which violates the condition of having a unique mode. Thus, the only option with 15 appearing more frequently than any other number in the set is (A).

Question 2:
Given a dataset of integers: 7, 12, 12, 18, 22, 12, 15, 19, 10. If one more data point is added to this dataset, which must be an integer, and the mode remains 12, what is the maximum value this new data point can be?

(A) 12
(B) 11
(C) 13
(D) 15

Correct Answer: (A) 12

Explanation:
The current mode is 12, which appears three times. Adding an integer that is equal to 12 ensures that 12 remains the most frequent value in the dataset. Any other value would either tie 12 or create a different mode, violating the condition that the mode remains 12.

Question 3:
Consider a set of four