**[Que-50.37] - Explain the concept of the cost function in logistic regression.**

### **Cost Function in Logistic Regression**

The cost function in logistic regression is the logistic loss (log-loss), which measures the difference between the predicted probabilities and the actual class labels. It is defined as:

J(θ)=(−1/m) ∑i=1m [yi log(hθ (xi ))+(1−yi )log(1−hθ (xi ))]

where hθ (xi ) is the predicted probability for the i-th sample, yi is the actual label, and m is the number of samples.