1) An arbitrary large neural network may predict any output based on arbitrary input variables with a perfect accuracy. E.g. it is possible to train a neural network to predict the number of students in the class room (output data) out of the amount of fuel in the car of the professor (input data). In this simple scenario, the output and the input has no meaningful relationship. Nevertheless, it is possible to train the neural network on the training data with perfect accuracy. Of course, the unknown test data will completely fail in this simple scenario, because there is no reasonable / meaningful relationship between the input and the output data.
If the accuracy on training data and test data differs a lot, there is something wrong with your trained model.

2) Ten classes: accuracy is 1/10 = 10 %