(a)

- Learning rate is too high – potential overshooting (not catching data trends)
  With a high learning rate, the model's weights are updated with large steps during each iteration.
  Solution: reducing the rate
- Learning rate is too small – slow learning
  A very small learning rate results in tiny weight updates during each iteration.
  Solution: to increase the rate
- Batch size is too high - potential lower validation accuracy.
  Slow down training due to increased memory requirements and computation time per iteration. Also, can make the model less robust to noise and outliers in the data, as the gradient is averaged over a larger number of samples.
  Solution – reduce the size
- Batch size is too small - training accuracy and loss might fluctuate
  Noisy gradient estimates.
  Solution – increase the size.

(b)

$$Precision = \frac{True\ Positives}{True\ Positives + False\ Positives}$$

$$Recall = \frac{True\ Positives}{True\ Positives + False\ Negatives}$$

$$F1-score = \frac{2*(Precision*Recall)}{Precision + Recall}$$