Ahsanullah University of Science and Technology

Department of Computer Science and Engineering

4th Year 2nd Semester Quiz-1 (Set-A) Spring 2022

Course No: CSE 4213 Course Title: Pattern Recognition

Time: 30 minutes Full Marks: 10

Roll: **Name:**

Q1. Explain the term" generalization". [2]

Q2. Consider the following four data points given for two classes. Find the decision boundary equation to separate them using **perceptron criterion function** for **single update strategy**. Set the initial learning rate =0 and initial weight=1 and *Phi* function = [x^2 x 1]. Note: Show up to **two** iterations for weight update [5+3]

[Here, ## means last two digits of your ID]

ω_1 :(-1, 1)

ω_2 : (##, 2)

Also Derive the distance of r for any point x to the decision boundary H.

Ahsanullah University of Science and Technology

Department of Computer Science and Engineering

4th Year 2nd Semester Quiz-1 (Set-B) Spring 2022

Course No: CSE 4213 Course Title: Pattern Recognition

Time: 30 minutes Full Marks: 10

Roll: **Name:**

Q1. Explain the term" overfitting". [2]

Q2. Consider the following four data points given for two classes. Find the decision boundary equation to separate them using **perceptron criterion function** for **Batch update strategy**. Set the initial learning rate =0 and initial weight=1 and *Phi* function = [x^2 x 1]. Note: Show up to **two** iterations for weight update [5+3]

[Here, ## means last two digits of your ID]

ω_1 :(-1, 1)

ω_2 : (##, 2)

Also Derive the distance of r for any point x to the decision boundary H.