Status	Finished
Started	Saturday, 13 September 2025, 5:28 PM
Completed	Saturday, 13 September 2025, 5:36 PM
Duration	8 mins 2 secs
Grade	**5.00** out of 7.00 (**71.43**%)

Question 1

Complete

Mark 1.00 out of 1.00

Which one below is a regression problem?

Select one:

- a. Predicting property prices based on the sizes of houses
- b. Recognise hand-written digit images
- c. Classify customers into good credit, bad credit, or grey
- d. Predict whether an email is a Spam

Question 2

Complete

Mark 1.00 out of 1.00

Which one about the understanding of discriminative and generative learning models is incorrect?

Select one:

- a. Discriminative models are non-probabilistic while generative models are probabilistic
- b. Generative models can be used to generate input variables given class labels
- c. Discriminative models directly model the classifier

Question 3

Complete

Mark 1.00 out of 1.00

Which one is the correct generalisation (i.e., without ambiguous regions) of binary-class to multi-class (i.e., K classes) problems?

Select one:

a. Use K(K-1)/2 discriminant functions, each for every possible pair of classes (One-versus-one classifier)

b. Use K-1 discriminant classifiers, each separating one class from the rest.

c. Use K discriminant functions to represent the K classes. For each data point, choose the class with the largest magnitude of discriminant function.

Question 4

Complete

Mark 0.00 out of 1.00

Which one about the optimization of perceptron is incorrect?

Select one:

a. If the data is linearly separable, perceptron is guaranteed to find a perfect weight vector

b. Perceptron is sensitive to initialisation

c. Perceptron will converge eventually

Question 5

Complete

Mark 0.00 out of 1.00

In which classifier, p(x|C_k) (i.e., x is the input data and C_k is the class label) is modelled?

Select one:

a. Perceptron

b. Discriminative classifier based on Gaussian distributions

c. Bayes classifier

Question 6

Complete

Mark 1.00 out of 1.00

For the optimization, which classifier does not have the analytical solution?

Select one:

a. Probabilistic generative models via multivariate Gaussian distribution

b. Logistic regression

c. Probabilistic generative models via univariate Gaussian distribution

Question 7

Complete

Mark 1.00 out of 1.00

Which statement about the decision boundary of the probabilistic generative models via multivariate Gaussian distribution is correct? Assume it's a shared covariance matrix.

Select one:

a. It's linear

b. It's non-linear