Class Test- Total marks(10)

Course: Pattern Recognition Date: 9 July 2023

1. Answer only in pen and paper then click photo to convert into pdf and

upload. 2. Write your name and roll number also.

3. Please show all computations. No marks for direct answers.

4. Google classroom is the only submission portal. E-mail (or any other method) submission will NOT be accepted.

5. Penalties for late submission, 10% of the total marks awarded will be deducted for every 10 minutes.

6. Keep camera on and mic unmute.

1. (3 points) given this 8 directional chain code and following two figures. 1. What is the chain code for the figure (a) starting from lower left point?[1] 2. write the description of figure (b) and (c) independent of its starting point? Explain step wise.[1]

3. Are all these figures get same descriptor, irrespective of their starting point? If yes then Which technique you will use to prove it. And if no then why they don't have same descriptor.[1]

(a)   (b)   (c)
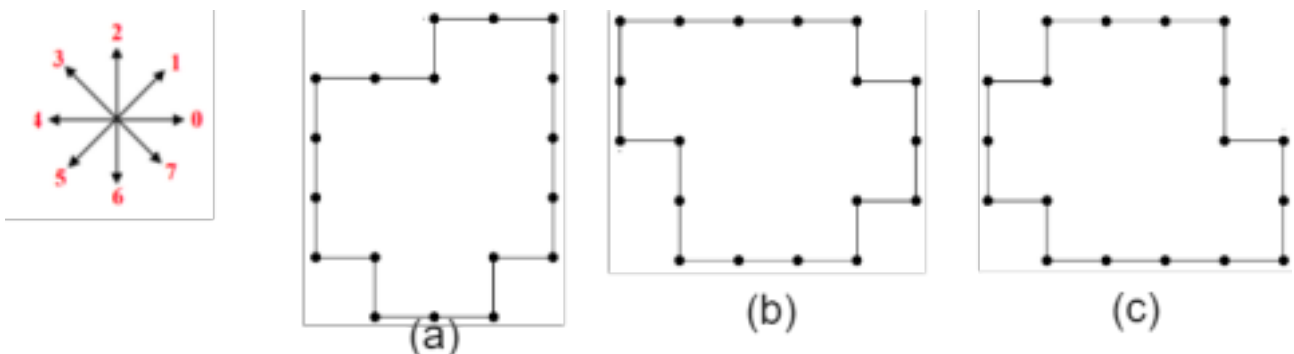
2. (7 points) Answer following questions.

1. In the context where we have n classes represented by $c_1, ..., c_n$,

and a feature vector a, provide the Bayes rule for classification in relation to the prior probabilities of the classes and the class conditional probability densities of a.[3]

2. Let's consider a scenario where we are dealing with a two-class problem, denoted as A and B. We have a single binary feature called (x, y) . Assuming the prior probability of class A, P(A), is 0.33, we are given a table showing the distribution of samples. By applying Bayes' Rule, calculate the posterior probabilities for classes.[4]

	A	B
x	248	167
y	82	503