

Q2 (b)	Compare regression and classification.	[05]
Q3 (a)	Describe how Principal Component Analysis is carried out to reduce the dimensionality of data set. Explain steps in detail. Consider the two dimensional patterns (2, 1), (3, 5), (4, 3), (5, 6), (6, 7), (7, 8). Compute the co variance matrix for finding principal component using PCA Algorithm. OR What is Independent Component Analysis? How it is different from PCA.	[10] [10]
Q3 (b)	Define the terms:- Hyper plane, Margin, Support vectors	[05]
Q4 (a)	Explain Expectation Maximization Algorithm in detail. Discuss usage, advantage and disadvantage of EM algorithm. OR Explain hierarchical clustering? Explain different approaches for Hierarchical Clustering in Machine Learning.	[10]
Q4 (b)	Explain Singular value decomposition in detail.	[05]
Q5 (a)	What are the elements of reinforcement learning? OR Compare wide and deep neural network. When to use deep learning over other techniques?	[07] [07]
Q5 (b)	Discuss Machine learning for video surveillance.	[08]

All the Best!