ITPC-41 (Machine Learning)

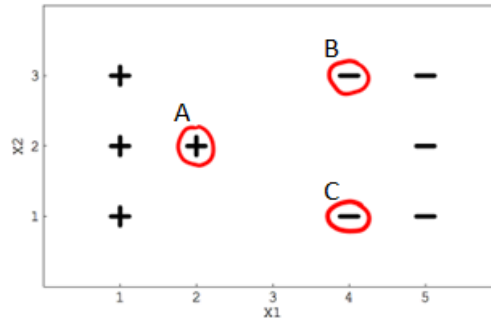**Max. Marks: 15**   **Duration: 50 Min**

Q.1. Explain how unsupervised learning is different from Supervised Learning. Define Features vs. Labels.   **3**

Q.2.

If you remove the following any one red points from the data. Does the decision boundary will change? Explain for all three points.   **3**

Q.3. What is Soft Margin? When Soft Margin is used in SVM? Describe when SVM is less efficient.   **3**

Q.4. What is a kernel in SVM? Why do we use kernels in SVM?   **3**

Q.5. Divide the given sample data in two clusters using k-means algorithm.   **3**

Height(X)	Weight(Y)
185	72
170	56
168	60
179	68
182	72
188	77
180	71
180	70
183	84
180	88
180	67
177	76