JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- Oct 2018

B.Tech VII Semester

Suman Saha

COURSE CODE: 10B1WCI731

MAX. MARKS:25

COURSE NAME: Artificial Intelligence

COURSE CREDITS: 3

MAX. TIME: One Hour Thirty Minutes

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

---

1. Define and difference the followings: 2+2+2+2 marks co4

a) Algorithm vs. machine learning
b) Supervised vs. unsupervised learning?
b) Distance based model vs. probability based model?
c) Training vs. testing data sets.

2. Given a dataset, a data instance x and a distance metric d, describes the k-nearest neighbors algorithm to predict the class information of x.   4 marks co5

3. How does the K-means algorithm work? Describe the convergence and initialization in this regards.   5 marks co4

4. Based on the data below (i) estimate a Naive Bayes classifier, (ii) apply the classifier to the class of point P5.   8 marks-co5

training data (words in document)	class(in c = China?)
P1 Chinese Beijing Chinese	yes
P2 Chinese Chinese Shanghai	yes
P3 Chinese Macao	yes
P4 Tokyo Japan Chinese	no

test data (words in document)

P5 Chinese Chinese Chinese Tokyo Japan	?