**Quiz 3 – Spring 2017**

**CS583: Data Mining and Text Mining**

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ UID\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This is a closed-book quiz.

|  |  |
| --- | --- |
|  | **Marks** |
| Q1 |  |
| Q2 |  |
| Q3 |  |
| **Total** |  |

1. (10 marks) There is **only one best answer** for the multiple choice questions.

1. What are the differences between PU learning and LU learning?
2. PU learning does not use negative examples in learning
3. LU learning uses positive and unlabeled examples in learning
4. LU learning uses a lot of positive examples and a small number of negative examples.
5. PU learning uses a small number of positive examples with a few negative examples.
6. What is the main assumption of co-training?
7. The feature set can be partitioned into two subsets and each subset is sufficient to build a good classifier.
8. The feature set can be partitioned into two subsets and one subset is not needed.
9. The feature set can be used to build two classifiers and each classifier can perform classification well.
10. The feature set can be used to build two classifiers and two classifiers can work together to build a better classifier.
11. The EM algorithm for learning from labeled and unlabeled examples uses the following strategy.
12. Runs the Naïve Bayesian classifier iteratively until it gets the best F score.
13. Runs the Naïve Bayesian classifier iteratively until it gets the best accuracy.
14. Runs the Naïve Bayesian classifier iteratively until it converges.
15. Runs the Naïve Bayesian classifier iteratively until it converges to the global optimum.
16. What is the co-citation value of nodes *i* and *j* in the following citation graph?

*i*

*j*

1. What is the bibliographic coupling value of *i* and *j* in the following citation graph?

*i*

*j*

2. (3 marks) What is the degree centrality of node *i* ?

*i*

3. (7 marks) From a Twitter dataset, we know the following (p*i* stands for a *person*):

p1 follows p2, p3, p4, p5

p2 follows p3, p4, p7, p8

p3 follows p4, p10, p11

Draw the social network. Who do you think might be the most prestigious person?