**Deep Learning – Winter 2017-18**

**Mid Term Exam**

You must attempt all the questions. Each question carries 10 marks.

Q1. Suggest a neural network with weights that can solve the following classification problem.

1

2

3

4

5

1

2

3

4

5

**X**

**Y**

Q2. I stumbled upon a paper at arxiv (<https://arxiv.org/abs/1802.07042>), which claims that “dropout is unnecessary if enough data augmentation is introduced”. What do you think? Justify or reject giving appropriate reasons.

Q3. Explain the difference between hard and soft attention along with typical architecture used to implement them.

Q4. What is the role of anchors in a faster RCNN model?

Q5. What is negative sampling? Why is so important in the context of learning word embeddings?