Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

BIO 300/CMPSC 300

Spring 2016

Chapter 3 – N-W Algorithm

1. Use the Needleman-Wunsch algorithm generate all optimal global alignments for the sequences ACGTACT and ACTACGT. Please show your work as demonstrated in class.
2. Use the Needleman-Wunsch algorithm generate all optimal global alignments for the sequences CTAG and CGCTAATC. Hint: you should find 10 altogether; the score for each should be -1. Please show your work as demonstrated in class.
3. When do you expect to happen if you aligned CAG with TTTCAGCAGTTT? Use the Needleman-Wunsch algorithm generate all optimal global alignments for these sequences. Please show your work as demonstrated in class. Were your expectations correct? Why or why not?