UNIVERSITY OF TORONTO
Faculty of Arts and Science

APRIL/MAY EXAMINATIONS 2001

NRS 201H1 S

Duration - 3 hours

No Aids Allowed

Six essays, each worth 11% of final grade.

1. Review evidence that the suprachiasmatic nucleus is important for generating circadian rhythms in rodents.

2. What is the dopamine hypothesis of schizophrenia, and how does it explain some aspects of schizophrenia, but not others?

3. State the Wernicke-Geschwind theory of speech learning and production. Review recent evidence using human brain stimulation or brain imaging, and discuss how this evidence supports or challenges the older W-G theory which was based on brain lesions.

4. What are the different types of memory loss that result from lesions to the cerebellum, the amygdala, the hippocampus or the frontal cortex?

5. What is the importance of glutamate receptors and CREB to learning and memory in hippocampal and amygdala systems?

6. Describe how the cerebral cortex is formed, by migration and differentiation of neurons, by interactions between neurons to make connections, and by external stimuli to alter the functional properties of cortical neurons.

Total Marks = 67%, including one free point.