**Advanced Operating Systems Design – Spring 2022**

**Quiz (02/15/2022)**

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (First Last)

Student R#: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Score: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Total: 3%)

**Question 1:** (1%) Distributed system

What are the differences between Cluster Computing versus Grid Computing?

**Question 2:** (1%) ZebRAM: Comprehensive and Compatible Software Protection Against Rowhammer Attacks

Is ZebRAM a hardware or a software solution?

Does it need to run in the user or kernel space? Why?

**Question 3:** (1%) Parallel I/O Evaluation Techniques and Emerging HPC Workloads

What are the three main classes in Large-Scale I/O performance evaluation?