This is the correct answer key to Exam 2, Fall 1998.

1) A is impossible because there is no D allele in the genome.

8) SRP is involved in docking of the ribosome to the ER during translation.

10) You need to transport glucose inward, along with the protons.

11) The male is sterile so they are unable to have offspring and as such can not pass on these traits.

14) Cyclin is the regulatory unit and it is synthesized at a constant rate.

21) Recombination can occur at any base pair.

25) Without microtubules you can not undergo mitosis. Thus you should enter S but not mitosis. D shows that most cells have 2x the normal amount of DNA.

26) Slow S phase would be C. Note that going from 1C to 2C means that DNA synthesis is occurring.

28) Most transmembrane proteins traverse the membrane via alpha-helices.

29) 1N = 4 means 2N = 8. You duplicate during S so that you would have 16 chromatids (8 chromosomes).

32) Dr. Rine stressed that some alleles are very prevalent in a population and that the allele may not be associated with a particular trait. Further analysis is often required.