

9/12/08

Name: \_\_\_\_\_

Information in Biology Course

Quiz #1

Papers by Ptashne and Adelman

1. Irradiation by  $\gamma$ -rays of a bacterium infected with  $\lambda$  phage will eventually:
  - a. Turn off lysogenic genes
  - b. Turn on lytic genes
  - c. Cause damage in DNA
  - d. All of the above
2. The lac operon will turn on when:
  - a. Lactose is present
  - b. Glucose is absent
  - c. Both of the above
  - d. None of the above
3.  $O_{R3}$  becomes occupied if and only if:
  - a.  $O_{R2}$  is occupied
  - b.  $O_{R1}$  is not occupied
  - c. Repressor is at high concentration
  - d. All of the above
4. Magnetic beads were used by Adelman to:
  - a. Check if the path goes through all nodes
  - b. Check if a vertex participates in the path
  - c. Check if a path exists
  - d. Check for the overall length of the path
5. To solve a 30 node Hamiltonian path Adelman would need about:
  - a. 2 kg of DNA
  - b. 20 ton of DNA
  - c. 200,000 ton of DNA
  - d. 20 million ton of DNA
6. 150 nM of a certain drug gives about:
  - a. 1 molecule per *E. coli*
  - b. 10 molecule per *E. coli*
  - c. 100 molecule per *E. coli*
  - d. None of the above