

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

## Topic: Metabolic Engineering (Week 8)

Pre-discussion questions. Answer briefly. Use only the space provided.

- 1) What is the natural source of artemisinin? Why did they want to produce it using a microbe?
  
  
  
  
  
  
  
  
  
  
- 2) What is the hypothesized mode of action of artemisinin against *Plasmodium* spp.?
  
  
  
  
  
  
  
  
  
  
- 3) Why is the production of artemisinin "semi-synthetic"? What compound is actually produced biosynthetically?
  
  
  
  
  
  
  
  
  
  
- 4) Why was the switch from *E. coli* to yeast made? What one key gene/enzyme necessitated this change in "chassis" organism?
  
  
  
  
  
  
  
  
  
  
- 5) What native metabolic pathway was overexpressed in yeast for this project? What is the name of this pathway and what is the final product before plant genes take over?