Exercise 8 – Analysis of DNA using Restriction Enzyme and Electrophoresis:

1. What is nuclease?

2. How does an endonuclease differ from an exonuclease?

3. What is a restriction endonucleases? Write names of some restriction endouclease.

4. What are 2 restriction endonuclease (RE) that we used in our lab? Write DNA sequences these RE recognize. Do they produce sticky ends or blunt ends when they cut the DNA molecules?

5. How does the number of restriction sites relate to the number of fragments produced for linear DNA or circular DNA?

6. What is palindromic DNA sequence?

7. What is electrophoresis? What does agarose gel electrophoresis allow us to do?

8. What is the chemical nature of agarose?

9. What factors effect the migration rate of DNA through an agarose gel?

10. For DNA molecules of equal sizes, how do the different shapes (conformation) of DNA differ in terms of distance traveled through an agarose gel?

11. In your pAMP electrophoresis experiment, why did you run a DNA ladder (lane 5) and undigested pAMP DNA (lane 4)?

12. Write some practical applications for use of restriction endonuclease