20   80

1. Please describe the principle of polymerase chain reaction (PCR) and outline its applications in molecular biology.

2. Give an example of events from ligand binding to activation of an end effector and explain how each step works.

3. Please describe the citric acid cycle (TCA cycle) and its importance.

4. We have mentioned Eadie-Hofstee plots (V vs. V/S) as an alternative to Lineweaver-Burk plots for expression of kinetic data. Sketch what Eadie-Hofstee plots would look like for a series of experiments at different concentrations of (a) A competitive inhibitor (b) A noncompetitive inhibitor.

4   20

Please describe the following in brief

1. Restriction enzyme
2. Reverse transcriptase
3. Oxidative phosphorylation
4. Gluconeogenesis
5. Ribozyme