



Q.1. Answer the following Short Questions: (10x3=30)

- i. Define evolution.
- ii. What is difference between generalized and specialized transduction.
- iii. What are applications of genetic engineering.
- iv. What is difference between heterochromatin and euchromatin.
- v. Define mutation. What are its types.
- vi. What is difference between starch and cellulose.
- vii. Differentiate between test cross and back cross.
- viii. Draw secondary structure of protein.
- ix. What is difference between glyoxysomes and peroxisomes.
- x. What are purines. Give its types.

Q.2. Answer the following questions. (3x10=30)

1.
 - a. Explain gene regulation.
 - b. What is conjugation.
2.
 - a. Define crossing over. Explain its mechanism.
 - b. What is inversion and translocations.
3.
 - a. What are different types of proteins in plasma membrane. Explain their functions.
 - b. Explain the functions of endoplasmic reticulum.