

- Q.1. B] Answer the following questions in one or two sentences. (10)
- What is crossing over?
 - Which subunit of ribosomes is attached first to the mRNA?
 - What is the role of SRY gene on Y chromosome?
 - What is criss-cross inheritance?
 - What is operon?
- Q.2. Answer **any two** from the following: (20)
- Describe ultrastructure and functions of mitochondrion.
 - Describe the structure and functions of peroxisomes.
 - Describe prophase I of meiosis.
 - Explain clover leaf model of tRNA.
- Q.3. Answer **any two** from the following: (20)
- What do you mean by chromosomal aberrations? Describe deletion with suitable example.
 - Explain the mechanism of sex determination in *Drosophila*.
 - What is haemophilia? Explain genetic basis behind inheritance of haemophilia.
 - What is maternal inheritance? Explain streptomycin resistance in *Chlamydomonas*.
- Q.4. Answer **any two** from the following: (20)
- Give the molecular details of DNA replication in prokaryotes.
 - What is transcription? Explain transcription in prokaryotes.
 - Describe the steps involved in mRNA synthesis in eukaryotes.
 - What is RNA processing? Describe RNA processing in eukaryotes.
- Q.5. Write short notes on **any four** of the following: (20)
- B-DNA
 - Cytokinesis
 - Gynandromorphs
 - Sex influenced traits
 - Leading and lagging strand
 - Meselson and Stahl's experiment