

LS 452—MOLECULAR BIOLOGY

Serial number	Topics
1.	Macromolecules and Organization: DNA, RNA: Structure, Conformation, Denaturation, Renaturation
2.	Chromatin structure, nucleosome
3.	Genes and genome organisation
4.	Transposons and retrotransposons
5.	Processes: DNA Replication-mechanism-Prokaryotes/eukaryotes
6.	RNA world and RNA Replication
7.	Mechanism of transcription- Prokaryotes/eukaryotes
8.	RNA processing: capping, polyadenylation, splicing, editing
9.	Genetic code and translation
10.	Regulation: Transcriptional regulation- Prokaryotes/eukaryotes
11.	Translational regulation
12.	Epigenetics
13.	Gene silencing, RNA interference

Suggested reading:

1. Genes IX. Lewin (2008),
2. Molecular Biology of the Gene. Watson et. al. (6th edn., 2009),
3. Molecular Cell Biology. Lodish et. al. (6th edn., 2008)
4. Molecular Biology of the Cell. Alberts et. al. (5th edn.,2007)