

LS-452 Molecular Biology Lecture Schedule

(May-Aug 2021) 3-credit

Prof. P.C. Rath*, Prof. K. Natarajan, Prof. P.K. Verma

Date	Introduction	2 PCR
	DNA and RNA: Structure and Conformation	3 PCR
	Denaturation and Renaturation of DNA	2 PCR
	DNA Replication: Replicon model; Replication origin; Replication Origin identification; Mapping of Origins	2 KN
	Enzymology and Mechanism of DNA replication	2 KN
	Regulation of DNA replication- Prokaryotes and Eukaryotes	1 KN
	Telomere replication; Telomerase	1 KN
	Chromatin Structure and Organization	3 PKV
	Structural Organization of Genes and Genomes	2 PKV
	Chromatin assembly after chromosome Replication	1 KN
	Transposable elements	2 PKV
	Transcription	3 KN
	Mutation and DNA Repair	3 PKV
	Mid-semester examination	
	DNA recombination	2 PCR
	RNA Replication and “RNA world”	2 PCR
	Types of RNA and RNA Processing	3 PCR
	Genetic Code and Translation	4 PCR
	Regulation of Prokaryotic Gene Expression	3 PKV
	Regulation of Eukaryotic Transcription; RNA processing	3 KN
	Epigenetics and Epigenome	2 KN
	RNA Interference and Gene Silencing,	2 KN
	End-semester examination	

PCR: Prof. P.C. Rath, KN: Prof. K. Natarajan; PKV: Prof. Praveen Verma

Recommended Books: Molecular Biology of the Gene (Watson et al) 6th Edn, Molecular Cellular Biology (Lodish et al) 6th edn, Molecular Biology of the Cell (Alberts et al) 5th Edn., etc.