**Total 42 classes PKV- 14, SD-14, PG-14**

| **LS425A** | **Molecular Biology** | **3 Credits** |
|---|---|---|
| Name of the Faculty : Prof. P.K. Verma*, Prof. S. Dutt, Dr. Pankaj K. Giri | | |
| **Date** Subject to Mid-sem and holidays | **Topic** | **Faculty Name/ Contact Hours** |
| 19th Jan | Introduction to Molecular Biology | PKV/1 |
| 21st-23rd Jan | DNA and RNA: Structure, Conformation and Topology | PG/2 |
| 28th ,30th Jan | Denaturation &Renaturation of DNA and Hybridization | PG/2 |
| 2nd ,4th,6th Feb | Chromatin Structure and Organization | PG/3 |
| 16th ,18th Feb | RNA Replication and "RNAworld" | PG/2 |
| 20th ,23rd ,25th Feb | Types of RNA and RNA Processing | PG/3 |
| 27th Feb,2nd March | Epigenetics and Epigenome | PG/2 |
| 6th March | Structural Organization of Genes and Genomes | PKV/1 |
| 9thMarch | DNA Replication: Replicon model; Replication origin | PKV/1 |
| 11thMarch | Regulation of DNA replication-Prokaryotes and Eukaryotes | PKV/1 |
| 13th ,16th March | Enzymology and Mechanism of DNA replication | PKV/**2** |
| 18th ,20th March | Cell cycle and chromosome replication | SD/**2** |
| 23rd March | Chromatin reassembly after chromosome replication | SD/1 |
| 25th March | End replication problem; Telomere and telomerase | SD/1 |
| 27th,30th March | Regulation of Prokaryotic Gene Expression | PKV/2 |
| 3rd April | Eukaryotic transcription: Basal transcription machinery and promoter architecture | PKV/1 |
| 6th April | RNA Pol II structure; RNA pol II CTD | PKV/1 |
| 8th April | Mediator complex; CTD Code; Chromatin remodelling | PKV/1 |
| 10th April | Coactivators; Coregulators; Transcription regulators/Activators | PKV/1 |
| 13th ,15th April | Transposable elements | PKV/2 |
| 17th April | Regulation of Eukaryotic Transcription | SD/**1** |
| 20th ,22nd ,24th April | Mutation and DNA Repair | SD/**3** |
| 27th ,29th April | DNA recombination | SD/**2** |
| 4th ,6th ,8th May | Genetic Code and Translation | SD/**3** |
| 11th May | RNA Interference and Gene Silencing | SD/**1** |

**Suggested reading:**


1. Molecular Biology of the Gene,Watson et al., 7th Edition.
2. Molecular Cellular Biology, Lodishet al., 6th Edition.
3. Molecular Biology of the Cell,Alberts et al., 5th Edition