MHARANA PRATAP P.G. COLLEGE, JUNGLE DHUSAN, GORAKHPUR

Class: B.Sc. I (Semester II) **Lesson Plan: 2022-23** **Subject: Zoology**

Date	Lecture No.	Teacher's Name	Paper/ Unit	Chapter	Topic
8.7.2022	1	R.N.Singh	1	Process of Transcription	Fine structure of gene
9.7.2022	2	R.N.Singh	2	Process of Translation	The genetic code
11.7.2022	3	R.N.Singh	3	Regulation of Gene Expression I	Regulation of gene expression in prokaryotes; lac and trpoperons in *E.coli*
12.7.2022				**Class Teaching**	
13.7.2022	4	R.N.Singh	4	Regulation of Gene Expression II	Regulation of gene expression in eukaryotes
14.7.2022	1	SK	5	Principle and Types of Microscopes	Principle of microscopy and Applications
15.7.2022	2	SK	6	Centrifugation and chromatography	Principle of centrifugation
16.7.2022	3	SK	7	Spectrophotometry and biochemical techniques	Colorimetry and spectrophotometry, Beer lambert law
18.7.2022	4	SK	8	Molecular techniques	Nucleic acid fractionation, detection by electrophoresis, DNA sequencing
19.7.2022				**Class Teaching**	
20.7.2022	5	R.N.Singh	1	Process of Transcription	RNA Polymerases
21.7.2022	6	R.N.Singh	2	Process of Translation	Ribosome
22.7.2022	7	R.N.Singh	3	Regulation of Gene Expression I	Regulation of gene expression in prokaryotes; lac and trpoperons in *E.coli*
23.7.2022	8	R.N.Singh	4	Regulation of Gene Expression II	Regulation of gene expression in eukaryotes
25.7.2022	5	SK	5	Principle and Types of Microscopes	Types of microscopy; light microscopy
26.7.2022				**Class Teaching**	
27.7.2022	6	SK	6	Centrifugation and chromatography	Types of centrifugation, high speed and ultracentrifuge
28.7.2022	7	SK	7	Spectrophotometry and biochemical techniques	Absorption spectrum
29.7.2022	8	SK	8	Molecular techniques	PCR, primer designing, DNA fingerprinting
30.7.2022	9	R.N.Singh	1	Process of Transcription	Transcription factors and machinery
1.8.2022	10	R.N.Singh	2	Process of Translation	Factors involved in translation
3.8.2022				**Monthly Evaluation**	
4.8.2022	11	R.N.Singh	3	Regulation of Gene Expression I	Regulation of gene expression in eukaryotes; Role of chromatin in gene expression
5.8.2022	12	R.N.Singh	4	Regulation of Gene Expression II	Regulation at translational level
6.8.2022	9	SK	5	Principle and Types of Microscopes	Dark field microscopy, phase-contrast microscopy
8.8.2022	10	SK	6	Centrifugation and chromatography	Types of rotors; vertical, swing-out, fixed angle etc.
10.8.2022	11	SK	7	Spectrophotometry and biochemical techniques	Biochemical technique; measurement of pH
11.8.2022				**Class Teaching**	
13.8.2022	12	SK	8	Molecular techniques	Site directed mutagenesis, RFLT
16.8.2022	13	R.N.Singh	1	Process of Transcription	Formation of Initiation of complex

17.8.2022	14	R.N.Singh	2	Process of Translation	Aminoacylation of tRNA, tRNA identity, aminoacyl Trans synthetase
19.8.2022	15	R.N.Singh	3	Regulation of Gene Exp24ression I	Regulation of gene expression in eukaryotes; Role of chromatin in gene expression
20.8.2022	16	R.N.Singh	4	Regulation of Gene Expression II	Post-translational modification
22.8.2022				**Class Teaching**	
23.8.2022	13	SK	5	Principle and Types of Microscopes	Fluorescence microscopy
24.8.2022	14	SK	6	Centrifugation and chromatography	Types of rotors; vertical, swing-out, fixed angle etc.
25.8.2022	15	SK	7	Spectrophotometry and biochemical techniques	Biochemical technique; measurement of pH
26.8.2022	16	SK	8	Molecular techniques	Molecular cloning, genomic libraries
27.8.2022	17	R.N.Singh	1	Process of Transcription	Initiation, elongation and termination of transcription in Prokaryotes
1.9.2022				**Monthly Evaluation**	
2.9.2022	18	R.N.Singh	2	Process of Translation	Initiation, elongation and termination of translation in Prokaryotes
3.9.2022	19	R.N.Singh	3	Regulation of Gene Expression I	Regulation at transcriptional level, Post-transcriptional modification.
5.9.2022	20	R.N.Singh	4	Regulation of Gene Expression II	Protein folding etc
6.9.2022	17	SK	5	Principle and Types of Microscopes	Confocal microscopy
7.9.2022	18	SK	6	Centrifugation and chromatography	Principle and types of chromatography paper, thin layer
10.9.2022				**Class Teaching**	
12.9.2022	19	SK	7	Spectrophotometry and biochemical techniques	Preparation of buffer and solutions
13.9.2022	20	SK	8	Molecular techniques	Gene transfer techniques, electroporation, microinjection
15.9.2022	21	R.N.Singh	1	Process of Transcription	Initiation, elongation and termination of transcription in Prokaryotes
16.9.2022	22	R.N.Singh	2	Process of Translation	Initiation, elongation and termination of translation in Prokaryotes
19.9.2022	23	R.N.Singh	3	Regulation of Gene Expression I	Regulation at transcriptional level, Post-transcriptional modification.
20.9.2022				**Class Teaching**	
21.9.2022	24	R.N.Singh	4	Regulation of Gene Expression II	Intracellular protein degradation
22.9.2022	21	SK	5	Principle and Types of Microscopes	Electron microscopy
23.9.2022	22	SK	6	Centrifugation and chromatography	Column, ion exchange
24.9.2022	23	SK	7	Spectrophotometry and biochemical techniques	Measurement
26.9.2022	24	SK	8	Molecular techniques	Detection of proteins, PAGE, ELISA,
27.9.2022				**Class Teaching**	
28.9.2022	25	R.N.Singh	1	Process of Transcription	Initiation, elongation and termination of transcription in Eukaryotes
29.9.2022	26	R.N.Singh	2	Process of Translation	Initiation, elongation and termination of translation in Eukaryotes

30.9.2022	27	R.N.Singh	3	Regulation of Gene Expression I	Capping, Splicing, Polyadenylation, RAN editing
1.10.2022	28	R.N.Singh	4	Regulation of Gene Expression II	Intracellular protein degradation
7.10.2022	25	SK	5	Principle and Types of Microscopes	Electron microscopy
8.10.2022				**Monthly Evaluation**	
10.10.2022	26	SK	6	Centrifugation and chromatography	Gel filtration
11.10.2022	27	SK	7	Spectrophotometry and biochemical techniques	Application and safety measure of radio-tracer techniques
12.10.2022	28	SK	8	Molecular techniques	Western blotting
13.10.2022	29	R.N.Singh	1	Process of Transcription	Initiation, elongation and termination of transcription in Eukaryotes
14.10.2022	30	R.N.Singh	2	Process of Translation	Initiation, elongation and termination of translation in Eukaryotes
15.10.2022				**Class Teaching**	
17.10.2022	31	R.N.Singh	3	Regulation of Gene Expression I	Capping, Splicing, Polyadenylation, RAN editing
18.10.2022	32	R.N.Singh	4	Regulation of Gene Expression II	Gene silencing, RAN interference (RNAi)
19.10.2022	29	SK	5	Principle and Types of Microscopes	Revision
20.10.2022	30	SK	6	Centrifugation and chromatography	HPLC affinity
28.10.2022	31	SK	7	Spectrophotometry and biochemical techniques	Application and safety measure of radio-tracer techniques
29.10.2022				**Class Teaching**	
1.11.2022	32	SK	8	Molecular techniques	Hybridoma technology
2.11.2022	33	R.N.Singh	1	Process of Transcription	Revision
3.11.2022	34	R.N.Singh	2	Process of Translation	Revision
5.11.2022	35	R.N.Singh	3	Regulation of Gene Expression I	Revision
7.11.2022	36	R.N.Singh	4	Regulation of Gene Expression II	Gene silencing, RAN interference (RNAi)
9.11.2022				**Monthly Evaluation**	
10.11.2022	33	SK	5	Principle and Types of Microscopes	Revision
11.11.2022	34	SK	6	Centrifugation and chromatography	HPLC affinity
12.11.2022	35	SK	7	Spectrophotometry and biochemical techniques	Application and safety measure of radio-tracer techniques
14.11.2022	36	SK	8	Molecular techniques	Hybridoma technology
15.11.2022	37	R.N.Singh	1	Process of Transcription	Revision