

**SVRK GOVERNMENT DEGREE COLLEGE :: NIDADAVOLE**  
**TABLE - A - CURRICULAR PLAN - LECTURE WISE : 2022 - 23**

**Department:** BOTANY      **Class:** II B.Sc.      **Year :** II      **Paper :** V      **Semester:** IV  
**Name of the Lecturer:** B. Rajarajeswari

S. No.	Month & Week	Hours available	Syllabus topic	Additional input / value addition	Curricular Activity				Co-curricular Activity				Remarks
					Activity	Hours allotted	Whether conducted	If nor, alternate date	Activity	Hours allotted	Whether conducted	If not, alternate date	
1	2	3	4	5	6	7	8	9	10	11	13	13	13
1	April 1 <sup>st</sup> week	4 2	UNIT I: The Cell 1. Cell theory; prokaryotic vs eukaryotic cell; animal vs plant cell; a brief account on ultra-structure of a plant cell. 2. Ultra-structure of cell wall.	Cell division	Teaching Practical	4 2							
2	April 2 <sup>nd</sup> week	4 2	3. Ultra-structure of plasma membrane and various theories on its organization. 4. Polymorphic cell organelles (Plastids); ultrastructure of chloroplast. Plastid DNA.		Teaching Practical	3 2			Assignm ent	1			
3	April 3 <sup>rd</sup> week	4 2	UNIT II: Chromosomes 1. Prokaryotic vs eukaryotic chromosome. Morphology of a eukaryotic chromosome. 2. Euchromatin and Heterochromatin; Karyotype and ideogram.	Cell cycles	Teaching Practical	4 2							

4	April 4 <sup>th</sup> week	4 2	3. Brief account of chromosomal aberrations - structural and numerical changes 4. Organization of DNA in a chromosome (solenoid and nucleosome models).		Teaching Practical	3 2				Assignm ent	1					
5	May 1 <sup>st</sup> week	4 2	<b>UNIT III: Mendelian and Non-Mendelian genetics 14Hrs.</b> 1. Mendel's laws of inheritance. Incomplete dominance and co-dominance; Multiple allelism. 2. Complementary, supplementary and duplicate gene interactions (plant based examples are to be dealt).	Inheritance biology	Teaching Practical	4 2										
6	May 2 <sup>nd</sup> week	4 2	3. A brief account of linkage and crossing over; Chromosomal mapping - 2 point and 3 point test cross.		Teaching Practical I MID EXAMIN ATIONS	2 2 1				Quiz	1					
7	May 11 <sup>th</sup> to 31 <sup>st</sup> may		<b>Summer vacation</b>													
8	June 1 <sup>st</sup> week	4 2	4. Concept of maternal inheritance (Corren's experiment on <i>Mirabilis jalapa</i> ); Mitochondrial DNA.		Teaching Practical	4 2										
9	July 2 <sup>nd</sup> week	4 2	<b>UNIT IV: Structure and functions of DNA</b> 1. Watson and Crick model of DNA. Brief account on DNA Replication (Semi- conservative method).	Control of gene expression at transcriptio n and translation levels	Teaching Practical	3 2				Assignm ent	1					

10	June 3 <sup>rd</sup> week	4 2	2. Brief account on Transcription, types and functions of RNA. Gene concept and genetic code and Translation. 3. Regulation of gene expression in prokaryotes - Lac Operon.		Teaching Practical	3 2				Group discussion	1			
11	June 4 <sup>th</sup> week	4 2	<b>UNIT V: Plant Breeding</b> 1. Plant Breeding and its scope; Genetic basis for plant breeding; Plant Introduction and acclimatization. 2. Definition, procedure; applications and uses; advantages and limitations of: (a) Mass selection, (b) Pure line selection and (c) Clonal selection. 3. Hybridization – schemes, and technique; Heterosis(hybrid vigour). 4. brief account on Molecular breeding – DNA markers in plant breeding. RAPD, RFLP.	Applied biology	Teaching Practical II MID EXAMINATIONS	3 2 1								
12	July 1 <sup>st</sup> week	4 2			Teaching Practical	3 2				Assignment	1			
13	July 2 <sup>nd</sup> week	4 2	Revision		Teaching Practical	3 2				Student seminar	1			
14	July 3 <sup>rd</sup> week	4 2	Revision		Teaching Practical	3 2				Assignment	1			

Signature of the Lecturer



Signature of the Lecturer in charge



Signature of the Principal

