

ACADEMIC PLANNER 2024-25
NAME OF THE DEPARTMENT: GENETICS(HONS) DSCG
DISCIPLINE SPECIFIC CORE COURSE
II SEMESTER Paper -2 SUBJECT TITLE: DSCGT2: CYTOGENETICS

Semester	first	Paper	CYTOGENETICS
Week/Month & Date (Preferably)	Day	Portions Planned for 1 hour	Teacher
FEBRUARY THIRD WEEK	1	Concept of allele, gene and genome, Phenotype and Genotype, Heredity, Variation, Pure Line, Inbred lines	PRIYADARSHINI P.A
	2	Mendal Experiments on Pea Plant- Law of Segregation	PRIYADARSHINI P.A
	3	Extra Nuclear Inheritance: Characteristic Features of Cytoplasmic Inheritance	JALAJAKSHI.S
	4	Mitochondrial DNA	JALAJAKSHI.S
FEBRUARY FOURTH WEEK	1	Monohybrid Cross	PRIYADARSHINI P.A
	2	Law of Independent Assortment- Dihybrid Cross	PRIYADARSHINI P.A
	3	Chloroplast DNA	JALAJAKSHI.S
	4	Sigma Factor in Drosophila	JALAJAKSHI.S
MARCH FIRST WEEK	1	Back Cross and Test Cross	PRIYADARSHINI P.A
	2	Multiple Alleles- ABO Blood Group and Rh factor in Humans	PRIYADARSHINI P.A
	3	Shell coiling in snail	JALAJAKSHI.S
	4	Cytoplasmic Male Sterility (CMS) in maize	JALAJAKSHI.S
MARCH SECOND WEEK	1	Related Genetic Problems	PRIYADARSHINI P.A
	2	Incomplete inheritance and Co-dominance, Non-epistasis (Comb pattern in fowl)	PRIYADARSHINI P.A
	3	Chromosomal theory of sex determination	JALAJAKSHI.S
	4	XX-XY, XX-XO, ZZ-ZW type	JALAJAKSHI.S
MARCH THIRD WEEK	1	Complementary gene interaction (9:7) (Flower colour in Lathyrus odoratus)	PRIYADARSHINI P.A
	2	Supplementary gene interaction (9:3:4) (Grain colour in Zea mays)	PRIYADARSHINI P.A
	3	Gene balance theory of Bridges	JALAJAKSHI.S
	4	Intersexes and Supersexes in Drosophila	JALAJAKSHI.S
MARCH FOURTH WEEK	1	Dominant Epistasis (Fruit colour in Cucurbita pepo)	PRIYADARSHINI P.A
	2	Recessive Epistasis (Coat colour in mice)	PRIYADARSHINI P.A
	3	Y chromosome in sex determination of Melandrium	JALAJAKSHI.S
	4	Environment and sex determination	JALAJAKSHI.S
APRIL FIRST WEEK	1	Linkage- Coupling and Repulsion hypothesis Linkage in Drosophila	PRIYADARSHINI P.A
	2	Complete and Incomplete Linkage	PRIYADARSHINI P.A
	3	Hormonal control of sex determination (Free martins)	JALAJAKSHI.S
	4	Gynandromorphs	JALAJAKSHI.S
APRIL SECOND WEEK	1	Factors affecting Linkage	PRIYADARSHINI P.A
	2	Germinal and Somatic crossing over	PRIYADARSHINI P.A
	3	Lyon's hypothesis	JALAJAKSHI.S
	4	Hyper activation of X in Drosophila and Random inactivation in human	JALAJAKSHI.S
APRIL THIRD WEEK	1	Creighton and Mc Clintock experiment in maize	PRIYADARSHINI P.A
	2	Molecular mechanism of crossing over- Holiday model	PRIYADARSHINI P.A
	3	Chromosomal aberrations- Numerical: Euploidy (Monoploidy, Haploidy and Polyploidy)	JALAJAKSHI.S
	4	Polyploidy- Autopolyploidy and Allopolyploidy	JALAJAKSHI.S
APRIL FOURTH WEEK	1	Inference and Coincidence, Construction of genetic map	PRIYADARSHINI P.A
	2	Significance of linkage and crossing over	PRIYADARSHINI P.A
	3	Aneuploidy- Monosomy, Nullisomy, and Trisomy	JALAJAKSHI.S

	4	Structural- Deletion: Notch wing in Drosophila (Terminal, Interstitial)	JALAJAKSHI.S
MAY FIRST WEEK	1	Sex linkage and Non-disjunction	PRIYADARSHINI .P.A
	2	Chromosome theory of inheritance	PRIYADARSHINI. P.A
	3	Duplication- Bar eye in Drosophila	JALAJAKSHI.S
	4	Tandem, Reverse Tandem and Displaced duplication	JALAJAKSHI.S
MAY SECOND WEEK	1	Bridges theory of non-disjunction	PRIYADARSHINI.P.A
	2	Attached X-Chromosome	PRIYADARSHINI.P.A
	3	Translocation- Rheo discolour	JALAJAKSHI.S
	4	Inversions (Pericentric and Paracentric)	JALAJAKSHI.S
		ASSIGNMENTS CORRECTION AND DISCUSSION	
MAY THIRDWEEK	1	Sex linkage in Drosophila and Poultry	PRIYADARSHINI P.A
	2	Sex linked inheritance in man (Colour blindness and Haemoglobin)	PRIYADARSHINI P.A
	3	Inversion of heterozygote and polymorphism	JALAJAKSHI.S
	4	Significance of chromosomal aberration	JALAJAKSHI.S
MAY FOURTH WEEK	1	Revision of Unit 1	PRIYADARSHINI P.A
	2	Revision of Unit 2	PRIYADARSHINI P.A
	3	Revision of Unit 3	JALAJAKSHI.S
	4	Revision of Unit 4	JALAJAKSHI.S