LS 403 Genetics

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Total No. classroom lectures: 29

S. no.	Topic	Name of the Faculty	No. of lectures
1	Mendelian Genetics : An overview Law of segregation and independent assortment, chromosome theory of inheritance	R. Muthuswami	2
2	Allelic and non-allelic interactions: Concept of alleles, types of dominance, lethal alleles, multiple alleles, test of allelism, complementation, epistasis	R. Muthuswami	3
4	Cell Division: Mitosis and meiosis, recombination, non-disjunction	R. Muthuswami	2
5	Linkage and recombination, gene mapping in *Drosophila*	R. Muthuswami	3
6	Changes in chromosome number and structure: Polyploidy, aneuploidy, deletion, inversion, duplication, and translocation	R. Muthuswami	2
7	Sex-linked inheritance and extrachromosomal inheritance	R. Muthuswami	3
3	Non-Mendelian/quantitative genetics: Genes and environment, heritability, penetrance and expressivity	N. Ramchiary	2
8	Mutation: Types, mechanism and role in creating genetic variation/evolution	R. Muthuswami	2
9	Bacterial genetics: Transformation, conjugation, and transduction	R. Muthuswami	2
10	Human Genetics	R. Muthuswami	2
11	Plant Genetics- include molecular markers	N. Ramchiary	3
11	Population Genetics	N. Ramchiary	2

The course will include assignments.

Recommended books:

1. An introduction to Genetic Analysis by Griffiths et al.
2. Genetics: Analysis of Genes and Genomes by Hartl and Ruvolo
3. Genetics: A conceptual approach by Pierce et al.

All these books are available in the School library.