

Genetics of Bio-Chemical Techniques

Contents

<i>Preface</i>	<i>ix</i>
----------------------	-----------

Unit 1

1.1 Spectrophotometry: Principle and biochemical application of UV-Spectrophotometry. Light and electron microscopy	2
1.2 Chromatography: Introduction-principle and applications of partition chromatography (paper chromatography) and adsorption chromatography (Thin layer chromatography) Gas Liquid chromatography, Ion Exchange chromatography	29
1.3 Centrifugation: Principle and Types of centrifuge. Differential and density gradient centrifugation	52
1.4 Electrophoresis: Principle, procedure and applications of polyacrylamide gel electrophoresis (PAGE), Sodium dodecyl sulphate- polyacrylamide gel electrophoresis (SDS-PAGE) and Iso electric focusing(IEF)	57

Unit 2

2.1 Concept of Gene: Allele, Multiple alleles, pseudo- alleles, complementation tests	71
2.2 Extensions of Mendelism: Concept of incomplete dominance and co-dominance, Gene interaction, penetrance and expressivity and pleiotropy.....	84
2.3 Linkage and crossing over: sex linkage, sex limited and sex influenced characters. Inheritance of Mitochondrial and Chloroplast genes.....	93
2.4 Methods of evolving sex limited breeds in silkworm. Population Genetics: The Hardy-Weinberg principles.....	118

Unit 3

3.1 Structural and numerical alterations of chromosomes: Deletion, Duplication, Inversion, Translocation, ploidy and their genetic implications.....	129
3.2 Mutation: Types, causes and detection, mutant types-lethal, conditional, biochemical, loss of function, gain of function, germinal verses and somatic mutants.....	145
3.3 Recombinaton: Homologous and Non Homologous Recombination including transposition.....	158
3.4 Microbial Genetics: Methods of genetic transfers- transformation, conjugation, transduction and Sex-duction.....	160
References.....	171