

CC – VIII- GENETICS & EVOLUTION

Unit I

Genetics-Monohybrid and Dihybrid Ratios(Mendel's Laws). Deviation from mendelian ratio: Incomplete dominance (Mono-and dihybrid), lethal factor, complementary factor and epistasis (dominant), Multiple factor Hypothesis, multiple alleles-Blood groups.

Unit II

Linkage, crossing over, recombination, cytological proof of crossing over, mapping of genes on the chromosomes, sex linkage-Drosophila (eye colour) and humans(colour blindness), cytoplasmic inheritance.

Unit III

Sex determination in Drosophila, humans and plants – changes in chromosome structure, number and behaviour, their genetic effects, polyploidy, types.

Unit IV

Biochemical genetics of Neurospora, Gene action. Gene units-cistron, recon, Muton, codon and operon. Gene mutation, physical and chemical mutagens. Mutation rate –its role in evolution.

Unit V

Evolution-Evolutionary concepts in explaining the diversity of life. Theories of Lamarck, Charles Darwin, and the modern synthetic theories.

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