

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.**F.Y. M.B.B.S.****E) GENETICS****i) Introduction – Mendelism, Laws Genetic code**

Level 2: Evolution, Eugenics and Polygenic inheritance, Radiation and mutation, Sex chromatin, Population genetics

ii) Cytogenetics

Structure and function of chromosomes, Cell cycle, Cell divisions, Spermatogenesis, Oogenesis

iii) Molecular genetics (Normal)

Gene, Genetic code, Structure and types of DNA, Structure of RNA

iv) Inheritance: Single gene inheritance, Multifactorial inheritance, Polygenic inheritance, Mitochondrial inheritance, Pedigree charts with symbols**Genetic basis of variation**

Mutation, Polymorphism, Multiple allelism

Level 2: Types, Factors influencing mutational load

Developmental genetics

chromosomes; Lyon's hypothesis; Hermaphroditism and pseudohermaphroditism; teratogenesis

Gonadal dysgenesis, Adrenogenital syndrome Androgen insensitivity

Level 3: Counselling

Pedigree charting

Chromosomal basis of disease: Numerical, Structural abnormalities

Down's, *Cri-du-chat*, Turner's, Klinefelter's

Level 2: Dermatographics

Level 3: Counselling

Prenatal diagnosis

Maternal Serum Sampling; Fetal USG; Fetal Amniocentesis; Fetal Chorion Villus Sampling

Level 2: (cordocentesis); Foetoscopy

Level 3: Eugenics