



**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**  
(A DEEMED TO BE UNIVERSITY)

**M.Sc. MB&HG (Semester-IV)**  
**November 2023 Examination**

[Max. Marks :100]

**Time : 3 Hrs.**

**Molecular Biology of Human Diseases II**  
**Q.P Code : M4552**

*Your answers should be specific to the questions asked.*  
*Draw neat labelled diagrams wherever necessary.*

**Long Essay**

**2X20=40 Marks**

1. Describe the genetic basis of Skeletal, Connective tissue and Hearing disorders.
2. Define pharmacogenomics, list the drugs based on therapeutic effect and mode of action, and explain the genetic polymorphism of drug metabolising enzymes.

**Short Essay**

**6X10=60 Marks**

3. Describe the classification genetic diseases with suitable examples.
4. Describe complete dominance, incomplete dominance, co-dominance, and overdominance.
5. Describe the Familial aggression and twin studies for estimation of genetic component of multifactorial traits.
6. Describe the methods used to study the human disease genes.
7. List the advantages and limitations of candidate gene studies and Genome Wide Association Studies.
8. Describe linkage, crossing over and genetic markers in gene mapping.

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**Time : 3 Hrs.**

**Genetic Engineering and Biotechnology**  
**Q.P Code : M4610**

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**LONG ESSAY**

**2 X 20 = 40 Marks**

1. Define drug target. Describe the sources, process of lead development of drug target in drug discovery
2. Describe the principle of site-directed mutagenesis by PCR based method

**SHORT ESSAY**

**6X 10 = 60 Marks**

3. Describe the principle of gene silencing by insertional inactivation and list the applications of gene silencing
4. Describe construction and applications of cDNA library
5. Define transformation efficiency. Describe the methods for transfer of foreign DNA into mammalian cells
6. Define restriction endonuclease and describe the classification of restriction endonucleases
7. Define vector and describe the unique properties and applications of BAC
8. Describe the construction and applications of genomic DNA library

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