



## **MGM INSTITUTE OF HEALTH SCIENCES**

(Deemed University u/s 3 of UGC Act, 1956)

**Grade 'A' Accredited by NAAC**

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# **Value Added Course**

## **Fundamental of Human Genetics**

  
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**Value added course- Fundamentals of Human Genetics- Proposed by Dr. Suvarna Magar**

**Week 1-**

- A. Introduction 1. History of Medical Genetics 2. Genetic disorders- 1 hr
- B. Understanding the DNA and replication,
- C. Understanding transcription, translation, Gene
- D. Genotype, phenotype and mutations

**Week 2-**

- A. Genes in Pedigree- understanding terminologies.
- B. Patterns of genetic inheritance- Mendelian and non mendelian

**Week 3-**

- A. Understanding the chromosomes
- B. chromosomal diseases- numerical and structural

**Week 4-**

- A. Cell Cycle, meiotic segregation ,Embryogenesis, organogenesis
- B. Congenital Malformations

**Week 5-**

- A. Biochemical Genetics-Inborn Errors of Metabolism- small molecule diseases
- B. Large molecule Diseases

**Week 6-**

- A. Hemoglobinopathies
- B. Cancer Genetics

**Week 7-**

- A. Laboratory Genetics-Cyto-Genetic and molecular Genetic diagnostic techniques
- B. Laboratory Visit

**Week 8-**

- A. Genetic Counselling
- B. Genetic screening

One pre-test and one post-test ( 50 one word questions- answers) on above topics, following which certificates can be given for completion of “Fundamental of Human Genetics Course”