

## Eligibility

**Graduates & Postgraduates** in Medicine, Dentistry, Genetics, Biotechnology, Biochemistry, Zoology, Microbiology/Pharmacy and Nursing with 50% marks from a recognized University.

No. of seats: **20**

## Selection Criteria

- Applications will be screened and suitable candidates will be called to appear for an interview.
- Selection of candidates will be on the basis of academic record and performance in the interview

## Fee Structure

The fee for this self-financed course is Rs.30,000/- (Rupees Thirty Thousand only) payable at the time of admission through DD in favor of “The Director, Institute of Genetics” OU, Begumpet, Hyderabad.

Application processing fee of Rs. 500/- (Rupees Five Hundred only) payable at the time of submission of application through DD in favor of “The Director, Institute of Genetics” OU, Begumpet, Hyderabad.

## Important Dates

Applications along with prospectus can be downloaded from the following websites:

[www.instituteofgenetics.org](http://www.instituteofgenetics.org)

[www.osmania.ac.in](http://www.osmania.ac.in)

Last date for submission of application : 25.03.2023

List of selected candidates on websites : 28.03.2023

Commencement of Course : 10.04.2023

## Address for Correspondence

**Dr. B. Vijaya Lakshmi**

**Director (I/C)**

**Institute of Genetics & Hospital for Genetic Diseases, O.U., Begumpet, Hyderabad – 16**

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**Course Co-ordinator**

**Dr. G. Deepika**

**Assistant professor**

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## Certificate Course Clinical Genetics: Diagnostics and Management

## Prospectus



Institute of Genetics & Hospital for Genetic Diseases  
Osmania University, Begumpet, Hyderabad –500016

Ph: 8331997340

Email: [ighgd.hyd@gmail.com](mailto:ighgd.hyd@gmail.com)

[www.instituteofgenetics.org](http://www.instituteofgenetics.org)

## About the Institute

Institute of Genetics and Hospital for Genetic Diseases, Osmania University is a premier institute in the country which conducts multi-disciplinary research in the field of Human Genetics. It was established in the year 1978 with generous funding from DST, UGC and Govt. of Andhra Pradesh.

Our aim is to prevent morbidity and mortality due to genetic disorders. We provide diagnostic services for these disorders at chromosomal, biochemical and molecular levels. Counseling is also offered to the affected individuals and their family members.

The Institute offers doctoral, postdoctoral research and training programs in genetic diagnosis. It also offers M.Sc Molecular & Human Genetics Course Sponsored by DBT.

Our purpose of introducing this Certificate Course in “Clinical Genetics: Diagnostics and Management” is to bridge the gap between scientific and medical fraternity in understanding the recent advances made in the field of clinical genetics and also to meet the increasing demand of genetic investigators and skilled personnel to serve the patient community better and to work towards the prevention of human afflictions.

## Objective

To impart knowledge and practical skills of cutting edge technologies in Clinical Genetics, Cytogenetics, Biochemical and Molecular Genetics for precise diagnosis, proper management and genetic counseling

The course is designed to reflect the increased impact of genomics in understanding human diseases

## Course Details

The course duration is of **six months** comprising of theory, practical training and project work.

### Theory includes

- Chromosomal Microarray
- Clinical Exome Analysis (NGS)
- Biochemical & Molecular basis of Genetic Diseases
- Prenatal Diagnosis & Genetic Counseling

### Practicals include

Hands on training in various techniques involved in Prenatal and Post natal diagnosis of Genetic Disorders:

- 3D/4D Ultrasonography (TIFFA, Fetal 2D Echo)
- Intervention Procedures (Amniocentesis, CVS)
- Lymphocyte Culture
- Karyotyping
- Fluorescent In situ Hybridization (FISH)
- PCR, ARMS-PCR, Multiplex PCR
- Advanced Techniques in Medical Genetics

- Clinical Proteome Analysis (LC-MS/MS)
- Restriction Fragment Length Polymorphism (RFLP)
- High Performance Liquid Chromatography (HPLC)
- Comet assay
- Enzyme Linked Immunosorbent Assay (ELISA)
- Newborn screening
- Case studies (Clinical evaluation Pedigree analysis, Risk assessment)
- Psychological assessment
- Genetic Counseling

## Project work: Desired discipline

### Evaluation

Theory & Practicals	-	300 marks
Project Work	-	100 marks

Minimum pass marks - 50%  
Successful candidates will be awarded certificates by Institute of Genetics, O.U, Hyderabad

## Prospects of the Course

Candidates will develop the potential to get placements in National / International Research Organizations, Hospitals, Speciality Clinics, Diagnostic Centers etc