



## MGM INSTITUTE OF HEALTH SCIENCES

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

Grade 'A' Accredited by NAAC

Sector-01, Kamothe, Navi Mumbai - 410 209

Tel 022-27432471, 022-27432994, Fax 022 - 27431094

E-mail : [registrar@mgmuhs.com](mailto:registrar@mgmuhs.com) | Website : [www.mgmuhs.com](http://www.mgmuhs.com)

### Value Added Course

## EXPLORE THE DNA FRAGMENTS

**Dr. Rajesh B. Goel**  
Registrar

**MGM Institute of Health Sciences**  
(Deemed University u/s 3 of UGC Act, 1956)  
Navi Mumbai- 410 209

**Dr. Shashank D. Dalvi**  
Vice Chancellor  
MGM Institute of Health Sciences  
Navi Mumbai - 410209



*A 16 hours Value Added Course for Students*

## *Explore the DNA Fragments*



*Department of Medical  
Biotechnology, Central Research  
Laboratory,  
MGM SBS, Kamothe, Navi Mumbai*

**Department under Which Course to Be Conducted:**

Department of Medical Biotechnology (Central Research Laboratory), MGM School of Biomedical Sciences, Kamothe, Navi Mumbai

**Overview:**

We all are acquainted with our DNA, but did we know that our cells synthesize enough DNA during our lifetime for accommodate the change in the environment and evolve continuously according to the environment. DNA Controls all the cellular activities inside the organisms by synthesizing or restricting the synthesis of proteins. One can think that how can the cellular machinery accomplish such a feat without making mistakes and how can cell packages the two meters long DNA in to compact nuclear structure without becoming a tangled mess?

Are you ready to go beyond the "what" of scientific information presented in textbooks and explore *how* scientists deduce the details of these molecular models? Take a behind-the-scenes look at modern molecular biology, genetics, from the classic experimental events that identified the proteins involved in DNA replication and repair to cutting-edge assays that apply the power of genome sequencing. Do you feel confident in your ability to design molecular biology experiments and interpret data from them? We've designed the problems in this course to build your experimental design and data analysis skills.

**Objective:**

Objective of designing this course is to impart the skill for the students from different educational fields such as MLT, Biochemistry, Genetics, Microbiology, Pharmacology and other paramedical and MBBS students at Undergraduate, Post graduate and MD level in order to Learn about DNA Isolation, PCR experiment designing and electrophoresis analysis of DNA molecules.

**Title :** Explore the DNA Fragments

**Duration of the Course:** 16 hours (2 days)

**Eligibility:**

MLT, Biochemistry, Genetics, Microbiology, Pharmacology and other paramedical and MBBS students at Undergraduate, Post graduate, MD level and teaching staff of medical and paramedical field as well will be eligible to apply for this course.

**Course Outline:**



- Overview of DNA extraction
- Basic Training on DNA Extraction from Blood
- Basic Training on DNA Extraction from Bacteria
- Primer Designing for PCR experiment
- Overview on PCR and its Types
- Hands on training on PCR
- Gel Electrophoresis Overview
- Hands on training on Agarose Gel Electrophoresis
- Hands on training on Polyacrylamide Gel Electrophoresis

**Teaching learning method:**

- Interactive lectures
- Demonstration of relevant topics
- Hands-on of all the procedure

**Assessment:** Pre Test / Post Test / Feedback

**Annual Intake:**

Per Batch 10 students and it will be flexible as per the resources and persons availability

**Fee Structure:**

The participation fees will be charged as per MGM-SBS Policy for training and skill development