

Molecular Biology for Bioinformatics — Hands-on

Gain expertise in molecular biology foundations and map every wet-lab step to its downstream bioinformatics interpretation with real-world practical sessions.

Molecular Biology for Bioinformatics Scientists

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Session 1

Fee: Rs 6300 [Apply Now](#)

Central Dogma & Core Techniques

DNA/RNA/protein structure, enzymes & kinetics essentials

Theory

PCR, RT-PCR, qPCR principles & primer design basics

Primer3 **BLAST** **Tm/ Δ G checks**

Molecular cloning overview: restriction & ligation logic

Restriction map **Ligase** **Gibson**

Session 2

Fee: Rs 8400 Apply Now

Nucleic Acid Workflows & QC

Genomic DNA/RNA extraction, purity & integrity checks

A260/280 **RIN** **Qubit/NanoDrop**

Gel electrophoresis & fragment analysis interpretation

Agarose gels **Ladders** **Smear QC**

Contamination control, biosafety & GLP documentation

GLP **BSL-2** **Audit trails**

Session 3

Fee: Rs 11200 Apply Now

Sequencing (Sanger & NGS) Links

Sanger sequencing & chromatogram interpretation

.ab1 **Trace QC** **Base-calling**

NGS library prep logic & platform considerations

Adapters **UMIs** **Indexing**

Wet-lab outputs → FASTQ/GFF3/VCF bioinformatics mapping

FASTQ QC **Alignment** **Variant calls**

Session 4

Fee: Rs 14000 Apply Now

Mini Capstone: Sample → Report

Plan experiment: controls, replicates & power basics

Theory

Run wet-lab steps, capture QC, create deposit-ready dataset

QC sheets **Metadata** **Checklists**

Translate findings to a concise bioinformatics-ready report

Quarto **JupyterLab** **pandas**