



## **6. ADVANCED TRAINING COURSE ON MOLECULAR BIOLOGICAL TECHNIQUES/BIOTECHNOLOGY**

**FOR:** Laboratory Managers, Quality Assurance Officers, Laboratory Scientists and Technologists, Laboratory Assessors in food, Environmental, Electronic, Chemical, Pharmaceutical, Institutional and Industrial Laboratories.

**OBJECTIVES:** The training workshop is designed to train Laboratory Personnel Molecular and Biotechnology Techniques.

### **COURSE CONTENT**

- The Role of NISLT in Sample Testing, Analysis and Quality Control.
- In-depth understanding of various DNA extraction techniques from different sample types, including cells, tissues, and environmental samples.
- Comprehensive training in PCR techniques, including standard PCR, quantitative PCR (qPCR), and reverse transcription PCR (RT-PCR).
- Techniques for cloning genes, creating recombinant DNA, and expressing proteins in various host systems.
- Training in DNA sequencing technologies, including Sanger sequencing and next-generation sequencing (NGS) platforms.
- Introduction to genome editing techniques like CRISPR-Cas9 and their applications in genetic engineering.
- Methods for expressing and purifying recombinant proteins for various applications, including research and biopharmaceuticals.
- Learning to analyze and interpret molecular data using bioinformatics tools and software.
- Techniques for maintaining and manipulating eukaryotic cell lines for biotechnological and research purposes.
- Exploring techniques for studying proteins and metabolites on a large scale to understand cellular processes.
- Understanding the principles of bioprocess design and optimization for the production of biopharmaceuticals and biofuels.
- Addressing the ethical and regulatory aspects of biotechnology, including biosafety and intellectual property issues.

**DURATION:** 7 days

**Date:** 9th – 13th September 2024

**Arrival:** 8th September 2024

**Departure:** 14th September 2024

**FEE:** ₦80,000.00

**(United Bank for Africa (UBA) ASLTON NISLT BRANCH 1020755954)**

**VENUE:** Ibadan Office, Nigerian Institute of Science Laboratory  
Technology, Educational Zone, Samonda, Ibadan, Oyo State.

**REQUIREMENT:** Participants are advised to come with their Laboratory Coats.