

LIFE TECK RESEARCH CENTRE
TRAINING PROGRAMS

MODULE 1: Basic and Clinical Microbiology Techniques

- 1. Designing of Microbiology laboratory & Handling of instruments**
- 2. Media preparation**
- 3. Isolation of Microbes from various sources**
- 4. Characterization of Microbes using conventional and modern techniques**
- 5. Maintenance and Transport of culture**
- 6. Phage titration assay**
- 7. Growth curve**
- 8. Bacterial conjugation**

DURATION – 7 DAYS, Rs 3500

MODULE 2: Mycotechnology

- 1. Setting up of Mycology lab**
- 2. Preparation of Various culture media**
- 3. Isolation of Fungus from various environmental & clinical sample**
- 4. Identification of fungus using conventional and molecular techniques**
- 5. Maintenance of fungal cultures**
- 6. Extraction of DNA from Fungus and characterization using AGE**
- 7. Extraction and characterization of Fungal proteins using SDS-PAGE**

DURATION – 15 DAYS, Rs 3500

MODULE 3: Molecular Biology and Molecular Genetics

Basic Module

- 1. Isolation of DNA from Bacteria, Fungi, Yeast & Plant**
- 2. Isolation of RNA from Bacteria & Yeast**
- 3. Agarose gel electrophoresis**
- 4. DNA quantification using spectrophotometer**
- 5. Plasmid DNA isolation from Bacteria**
- 6. DNA elution technique**
- 7. PCR**
- 8. SDS-PAGE**

DURATION – 10 DAYS, Rs 3500

Advanced Module I

- 1. DNA fingerprinting**
 - i. RFLP**
 - ii. AFLP**
 - iii. RAPD**
 - iv. ERIC PCR**
- 2. Different types of PCR**
 - i. RT PCR**
 - ii. Nested PCR**
- 3. Protein profiling**

DURATION – 7 DAYS, Rs 5000

Advanced Module II

1. PCR detection of SNP & PNP
2. Detection of DNA contamination using PCR
3. Blotting techniques
 - i. Southern Blotting
 - ii. Northern Blotting
 - iii. Western Blotting
4. Transformation

DURATION – 7 DAYS, Rs 5000

Sophisticated Techniques*

1. Detection by autoradiography using radiolabelled probes
2. Transformation of DNA from prokaryotes to eukaryotes

*** - Enquire for details**

MODULE 4: Immunotechnology

1. Immunization and Schedule (theory)
2. Antigen and Antibody characterization
 - Single Radial Immuno Diffusion
 - ODD pattern
 - Immunoelectrophoresis
 - Rocket Immunoelectrophoresis
 - Counter current Immunoelectrophoresis
3. Lymphocyte Preparation
4. Dot- ELISA

DURATION – 5 DAYS, Rs 2000

MODULE 5: Plant Tissue Culture Techniques

- 1. Tissue Culture media preparation**
- 2. Inoculation of Stem, Leaf, Root and Stem**
- 3. Anther Culture**
- 4. Embryo Culture**
- 5. Agrobacterium Mediated Transformation**
- 6. Protoplast Isolation**
- 7. Identification of herbal plants for Anti-cancer, Anti-diabetic and Anti-microbial study**
- 8. Phytochemical analysis of bioactive compounds**
- 9. Detection of bioactive compounds using TLC,HPTLC & HPLC**

DURATION – 15 DAYS, Rs 6000

MODULE 6: Animal Tissue Culture Techniques

- 1. Primary cell culture**
- 2. Cryopreservation & Revival of cell lines**
- 3. Maintenance of Cell lines**
- 4. Subculture and Passaging of Cell lines**
- 5. Identification of Virus – HA or HAI**
- 6. Fixing of Cells for Staining**
- 7. Determination of Cytotoxicity of Cell lines**
- 8. Screening for Antiviral and Anticancer activity of Plant Extract**
- 9. Estimation of Cytotoxicity by Biochemical Analysis (MTT assay)**

DURATION – 15 DAYS, Rs 6000

MODULE 7: Chromatographic Techniques

- 1. Thin Layer (TLC) and Paper Chromatography**
- 2. Column Chromatography**
- 3. Gel Filtration chromatography**
- 4. Ion exchange Chromatography**
- 5. High Performance Thin Layer Chromatography (HPTLC)**
- 6. High Performance Liquid Chromatography (HPLC)**

DURATION – 7 DAYS, Rs 6000