# Applied Microbiology Training Program

> Learn about the practical applications of microbiology in industrial, environmental, and medical fields in our Applied Microbiology Training Program.

NTHRYS provides Applied Microbiology Training Program at its Hyderabad facility, Telangana. Please refer below for more details including Fee strctures, Eligibility, Protocols and Modules etc.,. Please do call / message / whatsapp for more details on +91-7993084748.
Eligibility: BSc / BTech / MSc / MTech / MPhil / PhD in relevant field studying or completed students.

What do NTHRYS Provide in Applied Microbiology Training Program | Accommodation Assistance

Fee Payment Process for individual protocols: Please click **Join** button to pay the fee for selected protocol. Fees should be paid individually for all the selected protocols separately by clicking the button. Please save the payment proofs and send them as an attachment to **trainings [ a t ] nthrys [d 0 t] com** to receive payment invoices and slot confirmations.

Please communicate with our Academic Services Department via whatsapp on +91-7993084748 for any queries.

## Modules

Module 1: Basic Applied Microbiology Techniques

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## Profits of Learning Basic Applied Microbiology Techniques

Mastering basic applied microbiology techniques is essential for foundational understanding in microbiology. These techniques enable researchers to isolate, culture, and identify microorganisms, which are critical for applications in healthcare, agriculture, and biotechnology. By learning these protocols, researchers can ensure accurate and reproducible results in their experiments, laying the groundwork for more advanced studies.

**Basic Level Approaches and Protocols**

1. Media Preparation (Autoclave, pH Meter)
2. Pure Culture Techniques (Inoculation Loop, Bunsen Burner)
3. Streak Plate Method (Petri Dishes, Incubator)
4. Pour Plate Method (Petri Dishes, Incubator)
5. Spread Plate Method (Sterile Spreaders, Petri Dishes)
6. Microbial Staining Techniques (Microscope, Staining Dyes)
7. Gram Staining (Microscope, Gram Stains)
8. Acid-Fast Staining (Microscope, Acid-Fast Stains)
9. Microscopy Techniques (Light Microscope, Oil Immersion)
10. Bacterial Growth Curve Analysis (Spectrophotometer)
11. Antibiotic Sensitivity Testing (Agar Plates, Antibiotic Discs)
12. Enzyme Activity Assays (Spectrophotometer, Microplate Reader)
13. Microbial Identification (Biochemical Tests, API Strips)
14. Serial Dilution Method (Pipettes, Sterile Tubes)
15. Anaerobic Cultivation Techniques (Anaerobic Jar, GasPak)
16. Colony Morphology Observation (Petri Dishes, Microscope)
17. Broth Culture Methods (Erlenmeyer Flasks, Shaker Incubator)
18. Slant Culture Preparation (Test Tubes, Autoclave)
19. Storage of Microbial Cultures (Cryovials, Freezer)
20. Viable Count Techniques (Hemocytometer, Microscope)
21. Selective and Differential Media Usage (Petri Dishes, Incubator)
22. Microbial Motility Tests (Motility Agar, Microscope)
23. Microbial Pigment Production (Petri Dishes, Incubator)

# Duration: 2 Months

# Fee: Rs 45000/-

**Statutory Note:** NTHRYS Team can change the protocols, software, or tools used to achieve the tasks linked to the above-mentioned approaches or protocols.

Module 2: Advanced Applied Microbiology Techniques
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## Profits of Learning Advanced Applied Microbiology Techniques

Learning advanced applied microbiology techniques is crucial for enhancing research capabilities and addressing complex biological questions. These protocols allow for a deeper understanding of microbial physiology, genetics, and interactions within ecosystems. Mastery of these techniques equips researchers with the skills to innovate in fields such as environmental microbiology, industrial biotechnology, and clinical diagnostics, thereby driving scientific and technological advancements.

### Advanced Level Approaches and Protocols

1. Gene Cloning Techniques (PCR, Restriction Digestion, Ligation)
2. Genetic Transformation of Microbes (Electroporation, Heat Shock)
3. Recombinant Protein Expression in Microbial Systems
4. Enzyme Activity Assays in Microbial Extracts
5. Bioreactor Operation for Microbial Cultivation (Fed-Batch, Continuous Culture)
6. Protein Purification from Microbial Sources
7. Secondary Metabolite Production by Microorganisms
8. Microbial Production of Biofuels
9. Microbial Production of Pharmaceuticals
10. Biosafety in Microbial Research
11. Intellectual Property Issues in Microbial Biotechnology
12. RNA Interference (RNAi) in Microbial Systems
13. Phage Display Techniques for Protein Engineering
14. Metagenomic Analysis of Environmental Samples
15. Microbial Fermentation Processes
16. Isolation and Characterization of Microbial Strains
17. Antibiotic Resistance Profiling of Bacteria
18. Biofilm Formation and Analysis
19. Microbial Degradation of Pollutants
20. Microbial Production of Bioplastics
21. Bioprospecting for Novel Microbial Enzymes
22. Microbial Electrosynthesis
23. Microbial Fuel Cells
24. Probiotic and Prebiotic Analysis
25. Microbial Consortia for Wastewater Treatment
26. High-Throughput Screening of Microbial Libraries
27. Microbial Pathogen Detection Techniques
28. Regulatory Compliance in Microbial Biotechnology

# Duration: 3 Months

# Fee: Rs 1,85,000/-

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the tasks linked to the above-mentioned approaches or protocols.

**Please choose a suitable time slot and inform our team via WhatsApp on +91-8977624748 (located at the top right corner) to receive the payment link for fee payment and slot confirmation.**

**Enumeration of Microorganisms in Foods**

Rs 9600 /-

Time in Hours: 48

Join

**Enumeration of Aerobic colony count in Foods**

Rs 9600 /-

Time in Hours: 48

Join