

About Us

Edward Food Research & Analysis Centre Limited (EFRAC) is a state-of-the-art laboratory having the most advanced and high precision instrumentation setup. EFRAC provides worldclass research, analytical and training services to food manufacturer/food processor/food importer/exporter/food safety professionals, students, scholars and faculty members.

With the advent of globalisation and rapid expansion in the food & agricultural sector, industries across the globe are investing hugely in India. This has resulted in huge job opportunities for trained and skilled professionals for analytical and R&D services.

Every year huge job opportunities are created in research organisations, commercial laboratories, pharmaceutical companies, agrochemical industries, biotech companies and other allied industries.

All these industries seek candidates having sufficient practical exposure to handle and operate high cost sophisticated instruments. Since it is not viable and justified for colleges, institutes, research centres and other allied organisations to house this entire high-end instrumentation infrastructure, students therefore remain deprived of attaining the practical skill while undergoing their academic courses.

Due to lack of adequate skills the students passing out from different scientific disciplines and seeking job opportunities in R&D and analytical sector find it difficult to get a berth in these industries.

EFRAC has designed the course modules to enable students in such a way to gather practical experience in handling, operating and maintaining the ultramodern, highly sophisticated and automated instruments which are used for the high-end analysis in the field of chemical and biological science.

Apart from students this training module will also be very beneficial for quality and food safety professionals, scholars and faculty members in the above mentioned fields to upgrade and hone their analytical and R&D skills at par with current advancement in science and technology.

Services we offer

Training and Academic Services: For UG, PG & research students, faculty members and professionals from food industry.

Analytical Services: Pesticide residue analysis, food and water analysis, microbiology analysis of food and agriculture products.

R&D Services: For food industry, academic institutes, universities, colleges and other concerned government and non-government organisations.

Training on Microbiological Analysis



The training programme is designed to provide the most comprehensive range on bacteriological analysis of food and water using various techniques. The training program will also provide both technical knowledge and practical skills essential to professionals in residue analysis in line with ISO 17025:2005. The course will also update you about the legislations and regulatory guidelines for food safety and quality management systems.

BROAD ANALYTICAL SPECTRUM

- Pathogen detection
- Genetic analysis and strain identification
- Residual anti microbial substances/Bacterial enterotoxins
- Mycotoxins/Potency of antibiotics
- Microbiological monitoring of indoor air

TEST METHODS

- AOAC, APHA, EU, EPA

**Workshop contents/dates may be changed at the discretion of EFRAC*

Course Content

NAME OF THE TOPIC

Fundamentals of Food Microbiology

Introduction
Food contamination and spoilage
Beneficial roles of micro-organisms
Food borne infections and intoxications
Water & food associated microbes
Mycotoxins and its importance
Emerging pathogens of concern
Cleaning, disinfections and its effectiveness
General laboratory techniques

Analytical Techniques in Microbiology

Bacteriological enumeration
Media preparation and sample preparation
Dilution techniques
MPN technique
Membrane filtration technique
Pour plate/Spread plate method

Isolation and Identification Techniques of Food Pathogens

Culture media and its use and classification
Isolation of Salmonella from food sample
Isolation of Shigella from food sample
Selective isolation
Identification based on Colony Morphology
Selective isolation techniques
Staining techniques
Microscopy (dark field, phase contrast)
Biochemical techniques
Serological techniques

Environmental & Pharmaceutical Microbiology

Air sampling techniques
Swab sampling procedure
Bioburden testing
Endotoxins test (LAL)

Legislations and Regulatory Guidelines

Overview and requirement of ISO 17025
Importance of accreditation
PFA Act and rules
Discussion and conclusion
Course evaluation

Assessments/Certification

Who should attend?

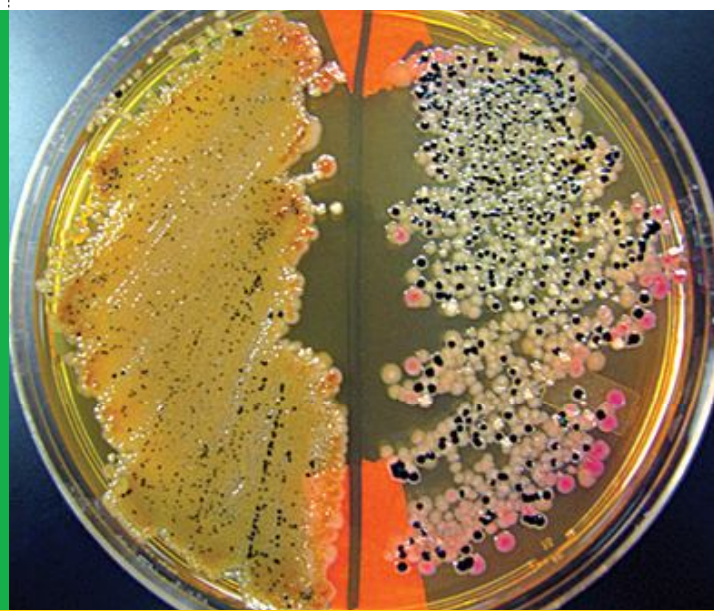
B.Tech, M.Tech, B.Sc and M.Sc students from Microbiology, Biotechnology, Genetic Engineering, Food Science & Nutrition, Cell Biology, Molecular Biology, Analytical Chemistry, Biochemistry, Biophysics, Instrumentation, Agriculture & Soil Science and Environmental Science.

JRFs, SRFs, Associates, Project Guides associated with research organisations.

Professionals from all fields of food manufacturing, food processing, food safety, agriculture industries and at all levels viz analysts, food inspectors, auditors, scientists, QA executives, managers etc.

ACCOMMODATION

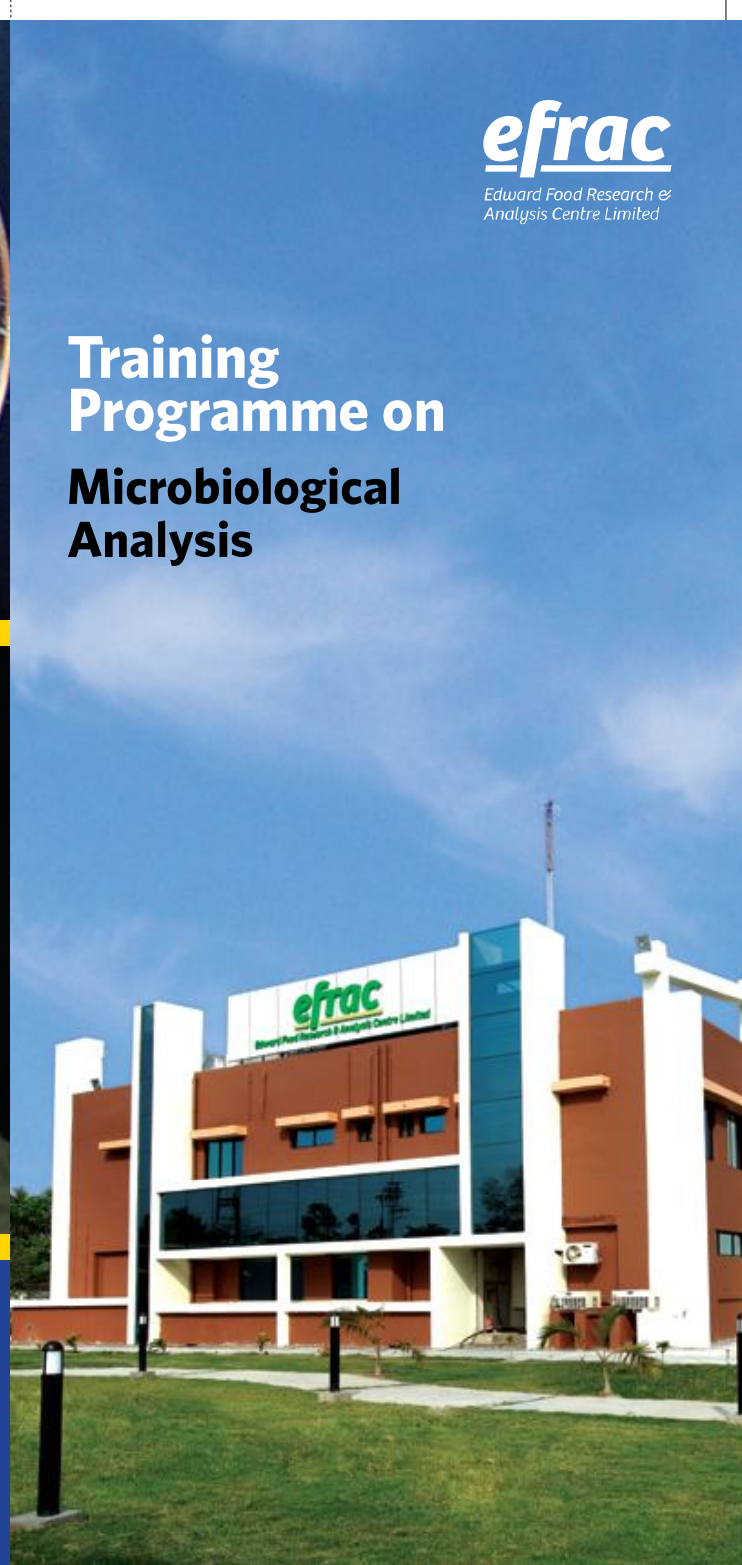
Accommodation can be provided to the students/professionals in nearby hotels at applicable charges.



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Training Programme on Microbiological Analysis



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For Course Fee & Registration Guidelines Please Contact

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RESEARCH & ANALYSIS CENTRE

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