

Operation and Maintenance of Fermenters



CSIR Integrated Skill Initiative

Schedule

- Date of commencement- February 3, 2020
- Duration of the course- 15 days
- No. of seats- 10
- Course Fee- Rs. 10000/- and Rs.15000 for sponsored candidates



CSIR-NIIST

Objectives

To enhance the knowledge of the students as well as employees at technical level in companies/institutes practicing fermentation technology. To impart practical skills that would enable them to take a knowledge based approach in operation and maintenance of fermenters and bioreactors. For students the course would enable them to excel in careers in production of biologicals, microbial metabolites or any other bio products using bioreactors.

Topics to be Covered

- Basics of microbial growth kinetics
- Media optimization concepts – Introduction to DOE
- Types of fermentation - Submerged, Solid State, Slurry state
- Basic anatomy of a classical STR, parts identification and purpose
- Fermenter Instrumentation- Components of fermenter their roles and control. PID's and SCADA
- Concepts of mass and oxygen transfer, Cascade control in fermenters
- Practical session(s) on:
 - i. Parallel fermenter
 - ii. 2L STR
 - iii. 20L STR with in-situ sterilization
 - iv. 150 L Fermenter

Job Opportunities

- Any fermentation industries such as biopharma, biotech industries.
- Production managers in Biotech industries
- STR(s) and Fermenter manufacturer(s) industries

Eligibility

Diploma in Chemical /Mechanical Engineering

B.Sc. In any Biological Sciences/B.Tech in Biotechnology, Biochemical /Chemical Engineering

M.Sc in any Biological Sciences/M Tech in Biotechnology, Biochemical /Chemical Engineering

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