**SUBJECT: INDUSTRIAL BIOTECHNOLOGY**

**SEMESTER: 8th BBT**

**Course Contents:**

1. **Fermentation**
2. **Fermenters/ bioreactors**
3. **Scale-up process**
4. **Down stream processing**
5. **Ethanol fermentation**
6. **Acetic acid fermentation**
7. **Citric acid fermentation**
8. **Vaccine production**
9. **Enzyme Engineering**
10. **Vitamin production**
11. **Antibiotic production**
12. **Amino acid production**

**Course Tutor: Gulesehra mujib**