

Subject Title: Microbial Technology

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Unit - I: Introduction to Microbial Technology

Essay Answer Type

1. Write about industrially important microorganisms and their products.
2. Describe importance of industrial biotechnology and its applications.
3. Write about isolation and screening methods of microorganisms.
4. Discuss preservation methods of industrial microorganism.
5. Explain the different strain improvement methods.
6. Good manufacturing practices and its importance.

Short Answer Type

1. Intellectual property rights
2. Write about scope of industrial biotechnology
3. Patenting issues
4. Screening methods of microorganisms
5. Mutations
6. Important products of microorganisms
7. Recombination
8. Lyophilization

Unit - II: Microbial Fermentation

Essay Answer Type

1. Discuss various types of fermentation methods.
2. Describe about various factors affecting fermentation process.
3. Define the concept of fermentation and its design.
4. Explain about Principles of fermentation technology.
5. Describe in detail about fermentation media and its design.

6. Write briefly about substrates used as carbon and nitrogen for inoculum development.

Short Answer Type

1. Continuous fermentation
2. Nitrogen source for inoculum development
3. Sparger function
4. Batch fermentation
5. Design of bioreactor
6. Fermentation of media
7. Substrates used as carbon source
8. Antifoam agents
9. Solid substrate fermentation

Unit - III: Microbial Technology Products and Applications

Essay Answer Type

1. Describe the method of microbial production of citric acid.
2. Write about recombinant vaccines and monoclonal antibodies.
3. Discuss in detail about basic concepts of food quality and control.
4. Explain about fermentation process of wine production.
5. Discuss microbial production methods of glutamic acid and ascorbic acid.
6. Write about fermentation method of streptomycin and erythromycin production.
7. Write short notes on biofuels
 - i) Hydrogen
 - ii) Alcohol
 - iii) Methane
8. Explain in detail about concept of biomining and extraction methods of copper, aluminum and uranium.
9. Describe about the microbial fermentation in dairy productions.
10. Write about fermentation process of beer production.

Short Answer Type

1. Bioremediation
2. Microbial production of lactic acid

3. Insulin
4. Vitamins
5. Microbial production of lysine
6. Dairy products
7. Biomining
8. Food quality
9. Therapeutic drugs
10. Biofuels

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