

Course objectives:

This course is designed to provide Instruction about

- General principles of food microbiology and dairy Microbiology.
- Food spoilage by microorganisms;
- The microbiology of food preservation and food commodities;
- Fermented and microbial foods;
- Principles and methods for the microbiological examination of foods; micro biological quality control, and quality schemes.
- Processing in dairy for milk and milk product is core part of dairy microbiology.

UNIT –1 Introduction to Sustainable Management**10hrs**

- What is Sustainable Management?
- Sustainable development and Green Climate Fund
- Introduction to Corporate Social Responsibility and ISO 14001
- Brief account on SDGs (Sustainable Development Goals), Agenda 21, MDGs (Millennium Development Goals), UNDP


UNIT –2 Biodiversity and its importance with respect to Environment and Economy**10hrs**

- Basic Concept of Biodiversity – Definition, Types of Biodiversity, Keystone Species, Importance of Biodiversity
- Global Distribution of Biodiversity and Biodiversity Hotspots
- Biodiversity in India – Wetlands, Marine Environment, Endemism, Biodiversity and People's Livelihood
- Forest Biological Diversity- Status of forest in India, Genetic Diversity of Indian Trees

UNIT –3 Biodiversity in sustainable Agriculture**10hrs**

- Agrobiodiversity and Local Knowledge and its importance
- Plant Agrobiodiversity – Centres and origin, Value of Plant genetic resources
- Animal Genetic Resources – Five Major Species, Species with a Narrower Distribution, Breed Diversity
- Agrobiodiversity and Food Security

UNIT – 4 Threats to Biodiversity and impact of Biodiversity loss on sustainability**10hrs**


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- Extent of Biodiversity Loss
- Biodiversity Threats
- The Indian Scenario
- Protected Areas and Countering Biodiversity Loss

UNIT- 5 Sustainable Use of Biodiversity

10hrs

- Sustainable Use of Biodiversity
- International and National Instruments Relating to Biodiversity Management
- Gender and Biodiversity in India
- Conservation Measures of Biodiversity


Reference Book:

- IGNOU Study Materials
- Verma, P.S., Agrawal, V.K. (2005). Ecology, Cell Biology, Molecular Biology, Genetics. New Delhi: S. Chand and Company Limited.

16IMBDA06	DSE Allied – 3 Practical : Sustainable Management	1hrs/wk	No Credit
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These are practice and observation exercises for the better understanding of the basic concepts like:

1. Microscopic Study of water from different sources to compare microbial and other biodiversity
2. Study of Agrodiversity
3. Case Study
4. Group Discussion


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Chairman - Microbiology
 BOS