

6th Semester	RCE6C001	Microbial Technology & Biotechnology	L-T-P 3-0-0	3 Credits
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MODULE-I**09HOURS**

Methods for the microbiological examination of water and foods; Control of Microbiological quality and safety; Food borne illnesses and diseases

MODULE-II**10HOURS**

Microbial cultures for food fermentation, their maintenance, strain development; Production of organic acids (vinegar, lactic acid), alcoholic beverages (beer, wine, and distilled alcoholic beverages such as whiskey, rum, vodka), glycerol

MODULE-III**10HOURS**

Propagation of baker's yeasts; Microbial production of vitamins (B2 and B12), antibiotics (penicillin, streptomycin, tetracycline); Enzymatic production of glucose, fructose, starch, SCP and mushrooms

MODULE-IV**09HOURS**

Basics of microbial genetics – Gene, DNA, RNA; Replication, transcription, transformation, transduction, conjugation; Regulation of gene expression; Application in GM foods.

Books:

1. Industrial Microbiology Prescott & Dunn, CBS Publishers
2. Modern Food Microbiology by Jay JM, CBS Publishers
3. Comprehensive Biotechnology by Murray & Mooyoung, Academic press
4. Industrial Microbiology by Casida L.R., New Age International Pvt. Ltd.
5. Food Microbiology; Frazier WC; 4th ed, Tata-McGrowhill Pub.
6. Microbiology by Pelczar, Chan, and Krieg, TMH

Digital Learning Resources:

Course Name	IRRIGATION AND DRAINAGE
Course Link	https://nptel.ac.in/courses/126/105/126105010/
Course Instructor	PROF. DAMODHARA RAO MAILAPALLI Department of Agricultural and Food Engineering IIT Kharag