

**BIM -S301**  
**SEC-1 FOOD FERMENTATION TECHNIQUES**

MM : 100

Time : 3 hrs

L Credit

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Total Hours: 60

Sessional : 30

ESE : 70

Pass Marks : 40

**Learning objectives:**

- To know the different types of fermented foods available in markets.
- To know about the vegetable and grain based fermented products.

**Learning outcomes:**

At the end of course student will be able to

- Prepare the fermented foods from milk, grain and vegetables.
- Prevent and control the bacterial infection through various techniques.

**UNIT-I**

Fermented Foods: Definition, types, advantages and health benefits of fermented foods. (10 Lectures)

**UNIT- II**

Milk Based Fermented Foods: Dahi/Yogurt, Buttermilk (Chhach), Shrikhand and Cheese: Preparation of inoculum and production process. (16 Lectures)

**UNIT-III**

Grain Based Fermented Foods: Soy sauce, Tempe, Bread, Jalebi, Miso, Tofu, Idli and Dosa: Microorganisms used and production process. (16 Lectures)

**UNIT-IV**

Vegetable Based Fermented Foods: Pickels, Saeurkraut: Microorganisms and production process. (08 Lectures)

**UNIT-V**

Probiotic Foods: History, definition, types, microorganisms and health benefits in supply of vitamins, Immunomodulation, control of pathogenic bacteria *in vivo* (10 Lectures)

**Suggested Reading**

1. Dubey R.C. and Maheshwari, D.K. *A Textbook of Microbiology*. 3rd ed., S. Chand & Co, Ram Nagar, New Delhi, p. 1034. ISBN 81-219-2620-3
2. Dubey, R.C. and Maheshwari, D.K. *Practical Microbiology*. 2nd ed., S. Chand & Co. P Ltd, New Delhi, p. 413. ISBN: 81:219-2559-2
3. Doyle et al., *Food Microbiology: Fundamentals and Frontier*, American Society of Microbiology
4. William C Frazier, *Food Microbiology*, MacGraw Hills Education.
5. Adam and Moss, *Food Microbiology*, Royal Society of Chemistry
6. Dubey, R.C. *Advanced Biotechnology*. S. Chand & Co. P Ltd, New Delhi, p. 1161; ISBN: 81:219-4290-X.

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