

17FT014 ENVIRONMENTAL FOOD PROCESSING

Hours Per Week :

L	T	P	C
3	1	-	4

Total Hours :

L	T	P	W/RA	SSH/HSH	CS	SA	S	BS
45	15	-	15	30	-	5	5	-

Course Description and Objectives:

To enable the student understand the extent of wastes produced in a food industry and its environmental effects. To enable the student understand the nature of food wastes and methods of treatment. To enable the student know the importance of waste utilization in Food industries.

Course Outcomes:

- Students will attain knowledge about the methods of managing food wastes
- Students will gain knowledge on the methods for utilization of food wastes.
- Students will gain knowledge on getting value added products from wastes.

SKILLS:

- ✓ Efficient in understanding various categories of food wastes.
- ✓ Expert in utilization of by-products from various food industries.
- ✓ Proficient in organic waste utilization.

UNIT - I

Waste & its consequences in pollution and global warming, Types of food processing wastes & their present disposal methods.

UNIT – II

Treatment of plant waste by physical, chemical and biological methods, Effluent treatment plants, Use of waste and waste water.

UNIT – III

Types, availability and utilization of by-products of cereals, legumes & oilseeds, Utilization of by-products from fruits and vegetables processing industries, sugar and agro based industries, and brewery & distillery waste.

UNIT – IV

Status and utilization of dairy by-products i.e. whey, buttermilk and ghee residues, Availability & utilization of by-products of meat industry, poultry industry and fish processing UNITS.

UNIT – V

Biomethanation and biocomposting technology for organic waste utilization, incineration & efficient combustion technology, Integration of new and renewable energy sources for waste utilization.

TEXT BOOKS:

1. Beggs C. Energy Management and Conservation. Elsevier Publ.
2. Chaturvedi P. 2000. Energy Management: Challenges for the Next Millennium.
3. Energy Conservation through Waste Utilization. American Society of Mechanical Engineers, New York.
4. Kreit F & Goswami DY. 2008. Energy Management and Conservation Handbook. CRC Press

REFERENCE BOOKS:

1. Murphy WR & McKay G. 1982. Energy Management. BS Publ.
2. Patrick DR. 1982.. Energy Management and Conservation. Elsevier Publ.
3. Patrick DR., Fardo SW, Richardson RE & Steven Patrick DR. 2006
4. Energy Conservation Guidebook. The Fairmont Press
5. Wulfinghoff DR. Energy Efficiency Manual. Energy Institute Press.

ACTIVITIES:

- o Design an efficient combustion technology.
- o To utilize by-products from dairy industry.