

## SOFT CORE COURSES

### FNS 503 DAIRY TECHNOLOGY

#### **Course Outcome:**

39 hr (13× 3 units)

*At the end of this course the students will be able to-*

- CO 1. Acquire the basic knowledge of developments in dairy industries.
- CO 2. Comprehend the recent advances in processing of dairy products.
- CO 3. Acquire the knowledge in manufacturing of different dairy products.
- CO 4. Understand about types of dairy plants and working principles of dairy instruments.
- CO 5. Gain knowledge regarding hygiene and sanitation practices in the milk and milk products industry.

#### **Unit I:**

Dairy industry: Review of dairy development in India. Dairy industry in India and abroad. Co-operative dairying, Market survey; milk production & consumption pattern, national and global markets. Clean milk production & hygienic handling of raw milk. Milk collection/procurement and pricing.

Recent developments in dairy sector: Dehydration, UHT processing, types of UHT plants, aseptic fillers, heat stability and deposit formation aspects, retort processing, use of bio-protective factors for preservation of raw milk and their effects on physicochemical, microbial and nutritional properties of milk and milk products. Packaging of dairy products.

#### **Unit II:**

Dairy products: Fluid milk: Full cream, standardized, toned & double toned milk, reconstituted, rehydrated and recombined milk, flavored milk.

Traditional dairy products, Fat-rich dairy products, Heat and acid coagulated milk products, Cheese (types and manufacture process), value added dairy products, ice-cream and frozen desserts, imitation dairy products, By-products Technology (Processing and utilization of whey, ghee residue, casein – classification and applications).

#### **Unit III:**

Dairy Plant Management: Principles of dairy plant design, classification of dairy plants, Instrumentation and process control, microbial quality and safety in dairy industry, HACCP, GMP/GHP practices in dairy processing. Waste Disposal and Pollution Abatement, Current trends in cleaning and sanitization of dairy equipment.

#### **REFERENCES**

- Aneja R. P., Mathur, BN, Chandan RC, Banerjee AK. 2002. Technology of Indian Dairy Products. Dairy India Year book Publications, New Delhi.
- Gupta P. R., 1997. Dairy India, 5<sup>th</sup> Ed., New Delhi.
- Robinson R. K., 1994. Modern dairy Technology, 2nd Ed., Chapman and Hall, New York.
- Subbulaksmi G and Shobha A. Udipi, 2008. Food processing and preservation, New age international.
- D.B. Puranik, 2014. Dairy plant management, New India Publishing Agency.
- De Sukumar, 2001. Outlines of dairy: Technology, 1st edition, Oxford.