B.A. (Prog.) with Food Technology (FT) as Non-Major
Category-III

DISCIPLINE SPECIFIC CORE COURSE – DSC-6-FT:
BASIC BAKING TECHNOLOGY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Basic Baking Technology	4	3	0	1	Class XII	Nil

-

LEARNING OBJECTIVES:

- To impart students' basic knowledge related to the principles of baking
- To introduce the concept of proximate analysis and quality assessment of wheat flour
- To introduce them to the techniques and skills of cake and pastry making.

LEARNING OUTCOMES:

After completion of the course, the students will be able to:

- Describe the present and future trends of the bakery industry.
- Illustrate the basic ingredients and equipment used for baking along with their significance
- Develop and demonstrate the skills of preparing variety of cakes and pastries.
- Evaluate the quality of baked products
- Test wheat flour and conduct labeling, packaging and costing of prepared bakery products.
- Initiate the entrepreneurial journey in the field of bakery.

SYLLABUS OF DSC-6-FT

THEORY
(Credits 3: 45 Hours)

UNIT I: Baking Industry **(10 Hours)**

- *Unit Description:* This unit will introduce the students to the field of Food Bakery Science. It will also give information on nutrition facts of Bakery products.
- *Subtopics:*
  - History of bakery - present trends and prospects
  - Nutrition facts about bakery products

- Food safety aspects of baked products

UNIT II: Wheat Grain, Baking Ingredients and Equipment (18 Hours)

- *Unit Description:* The unit will focus on various aspects of structure and composition wheat grain and flour. It will also give information on bakery equipments.

- *Subtopics:*
  - Wheat grain– its structure
  - Milling of wheat, types of refined wheat flour; composition of refined wheat flour (gluten, amylose/ amylopectin, enzyme activity, moisture) and its storage
  - Bakery Equipments- oven, mixing tools and accessories

UNIT III: Cake Processing (12 Hours)

- *Unit Description:* The unit is about processing of various types of cakes, their labelling, packaging and evaluation.

- *Subtopics:*
  - Preparation of cakes - types of cakes, methods of batter preparation, steps in cake making, balancing of cake formula, evaluation of the baked cake, operational faults in cake processing and the remedial measures.
  - Packaging, labelling, and costing

UNIT IV: Pastry Technology (5 Hours)

- *Unit Description:* The unit is about processing of various types of pastries, and their evaluation.

- *Subtopics:*
  - Preparation of pastry - types of pastries (short crust, puff/flaky and choux pastry), processing and evaluation, faults and remedies.

PRACTICAL
(Credits 1: 30 Hours)

No. of Students per Practical Class Group: 10-15

1. Quality Testing of Flour: Determination of water absorption power (WAP) of refined wheat flour and whole wheat flour (2 Hours)
2. Determination of moisture content of refined wheat flour (2 Hours)
3. Preparation of Sensory evaluation card (Hedonic scale) for various baked products (2 Hours)
4. Preparation, labelling and sensory evaluation of cakes (12 Hours)
   -Fatless sponge (pineapple sponge, chocolate sponge and Swiss roll)
   -Shortened cake (plain tea cake, Dundee cake, marble cake, fruit cake and innovative nutritious cakes)
   -Eggless cake
5. Preparation and sensory evaluation of pastry (8 Hours)
   -Short crust (jam tarts)

-Puff/flaky (Bombay khari, vegetable patties/ puff)
-Choux pastry (chocolate éclairs)

6. Market survey of innovative nutritious bakery products (4 Hours)

ESSENTIAL/ RECOMMENDED READINGS (Theory and Practical):

1. Dubey, S. C. (2016). *Basic Baking-Science and Craft.* Delhi: Society of Indian Bakers.
2. Dubey, S. C. (2009). *Bakery Vighan.* Delhi: Society of Indian Bakers.
3. Ketrapaul, N., Grewal, R.B., & Jood, S. (2005). *Bakery Science and Cereal Technology.* Delhi: Daya Publishing House.
4. Potter, N., & Hotchkiss, J.H. (2006). *Food Science.* Delhi: CBS Publishers.
5. Srilakshmi, B. (2018). *Food Science.* Delhi: New Age International Publishers.

SUGGESTED READINGS:

1. Cornell, Hugh, J. & Hoveling, Alber. W. (1998). *Wheat Chemistry and Utilization*, Delhi: CRC Press.
2. Edward, W. P. (2007). *The Science of Bakery Products.* Cambridge: RSC Publishing.
3. Kent, N.L. (2004). *Technology of Cereals.* London: Pergamon Press.
4. Khanna, K., Gupta, S., Seth, R., Mahana, R., & Rekhi, T. (2004). *The Art and Science of Cooking.* Delhi: Phoenix Publishing House Private Limited.
5. Matz A. (2004). *The Chemistry and Technology of Cereals as Food and Feed.* Delhi: CBS Publishers.
6. Matz, A. (1998). *Bakery Technology and Engineering.* Delhi: CBS Publishers.
7. Raina, U., Kashyap, S., Narula,V., Thomas, S., Suvira, Vir, S., & Chopra, S. (2005). *Basic Food Preparation* – A Complete Manual. Delhi: Orient Longman.

REGISTRAR