Shyama Prasad Mukherji College

Teaching Plan

Course and Year: B.A. Program Food Technology 2nd Year

Semester: III

Taught individually or shared: Individually

Paper: Basic Baking Technology

Faculty: Ms. Mamta Marwaha

No. of Classes (per week): 4

COURSE OBJECTIVES:

• To impart students basic knowledge related to the principles of baking

• To introduce them to the techniques and skills of cake and pastry making and their decoration.

• To introduce the concept of proximate analysis of wheat flour.

COURSE LEARNING OUTCOMES:

After successfully completing 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.

• Describe the process of cake and pastry preparation, their decoration and evaluation.

• Demonstrate the skills for making cakes and pastries.

• Test wheat flour and conduct labelling, packaging and costing of prepared bakery products.

• Initiate the entrepreneurial journey in the field of bakery.

COMPULSORY READINGS:

• Dubey, S. C. (2007.) Basic Baking-Science and Craft. Delhi: Society of Indian Bakers.

• Ketrapaul, N., Grewal, R.B., & Jood, S. (2005). Bakery Science and Cereal Technology. Delhi: Daya Publishing House.

• Potter, N., & Hotchkiss, J.H. (2006). Food Science. Delhi: CBS Publishers.

ADDITIONAL RESOURCES:

• Cornell, Hugh, J. & Hoveling, Alber. W. (1998). Wheat Chemistry and Utilization, Delhi: CRC Press.

• Edward, W. P. (2007). The Science of Bakery Products. Cambridge: RSC Publishing.

• Kent, N.L. (2004). Technology of Cereals. London: Pergamon Press.

• Khanna, K., Gupta, S., Seth, R., Mahana, R., & Rekhi, T. (2004). The Art and Science of Cooking. Delhi: Phoenix Publishing House Private Limited.

• Mathur, P. (2018). Food Safety and Quality Control. Delhi: Orient Blackswan.

• Matz A. (2004). The Chemistry and Technology of Cereals as Food and Feed. Delhi: CBS Publishers.

• Matz, A. (1998). Bakery Technology and Engineering. Delhi: CBS Publishers.

• Raina, U., Kashyap, S., Narula,V., Thomas, S., Suvira, Vir, S., & Chopra, S. (2005). Basic Food Preparation – A Complete Manual. Delhi: Orient Longman.

• Srilakshmi, B. (2018). Food Science. Delhi: New Age International Publishers.

ADDITIONAL READINGS NOT PRESCRIBED IN THE SYLLABUS:

• Wayne Gisslen (2013). Professional Baking. John Wiley & Sons, New Jersey

• Arora K. (2011). Theory Cookery. Frank Brothers and Company Pvt Ltd, Delhi

• William & Suzue Curley(2014). Patisserie. Jacqui Small, London, England

• Parvinder S.B. (2019). Theory of Bakery and Patisserie. UUP India

• Yagambal A.K. (2018). Textbook of Bakery and Confectionery, 2nd Edition. PHI Learning, Delhi.

THEORY PERIODS: 60 (CREDITS 4)

UNIT I: BAKING INDUSTRY 8 classes, December, 2022

• Baking industry and its scope in the Indian economy

• History of bakery - present trends and prospects

• Nutrition facts about bakery products

UNIT II: WHEAT GRAIN, BAKING INGREDIENTS AND EQUIPMENT

22 classes, August, Sept,2022

• 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

• Ingredients – flour, sugar, fat, egg, leavening agents and other bakery additives

• Equipment- oven, mixing tools and icing tools

UNIT III: CAKE TECHNOLOGY 15 classes, October,2022

• 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

• Cake decoration- different methods

UNIT IV: PASTRY TECHNOLOGY 15 classes, November, 2022

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

Methodology of Teaching:

A mixed approach of teaching is used, along with online lectures the, following techniques are used:

1. Market surveys: Conducting an online market survey is given as an assignment to the

students. They get to know about variety and prices of various products by doing this assignment.

2. Demonstration: Various demonstrations are conducted for students to give

them a live experience of the subject. Relevant you tube videos are shown too.

3. Assignments/Projects: Various assignments and projects are given to students so

they can understand the application of the subject and it also encourages group participation. Students select a relevant topic for making a PPT and make an oral presentation on Google meet, followed by submission of the PPT on Google Classroom. This results in development of many soft skills required in the current times.

4. Tests: Tests are conducted to prepare the students for the exam

5. Workshop: Students are encouraged to attend inter and intra college webinars and workshops to enhance their knowledge and to strengthen them holistically and to give their products a professional touch.

6. Teaching aids: You tube videos and online resources are used as teaching aids to create a lasting impact on the students. Videos cover topics of cake and pastry making, cake decoration and the art of aesthetic plating.

ASSESSMENT

Tentative date of assessments/ assignments (time frame):

Assignment are given to students on different topics throughout the semester.

1. Market Survey of baked goods along with a written report - August, 2022

2. Labelled Diagram of Wheat Grain - September, 2022

3. Flow chart of the milling process - September, 2022

4. Innovative cake recipes - October, 2022

5. Innovative pastry recipes - November, 2022

6. Mock test Innovative cake recipes -December, 2022

Test 1- October, 2022 from Cakes

Test 2 November, 2022 from Pastries

Shyama Prasad Mukherji College

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Course and Year: B.A. Program Food Technology 2nd Year

Semester: III

Taught individually or shared: Individually

Paper: Basic Baking Technology

Faculty: Ms. Mamta Marwaha

No. of Classes (per week): 4 +4 Practical in two batches.

COMPULSORY READINGS:

• Dubey, S. C. (2016) Basic Baking-Science and Craft. Delhi: Society of Indian Bakers.

• Dubey, S. C. (2009) Bakery Vigyan. Delhi: Society of Indian Bakers.

• Ketrapaul, N., Grewal, R.B., & Jood, S. (2005). Bakery Science and Cereal Technology. De lhi: Daya Publishing House.

• Potter, N., & Hotchkiss, J.H. (2006). Food Science. Delhi: CBS Publishers.

ADDITIONAL RESOURCES:

• Cornell, Hugh, J. & Hoveling, Alber. W. (1998). Wheat Chemistry and Utilization, Delhi: CRC Press.

• Edward, W. P. (2007). The Science of Bakery Products. Cambridge: RSC Publishing.

• Kent, N.L. (2004). Technology of Cereals. London: Pergamon Press.

• Khanna, K., Gupta, S., Seth, R., Mahana, R., & Rekhi, T. (2004). The Art and Science of Cooking. Delhi: Phoenix Publishing House Private Limited.

• Mathur, P. (2018). Food Safety and Quality Control. Delhi: Orient Blackswan.

• Matz A. (2004). The Chemistry and Technology of Cereals as Food and Feed. Delhi: CBS Publishers.

• Matz, A. (1998). Bakery Technology and Engineering. Delhi: CBS Publishers.

• Raina, U., Kashyap, S., Narula,V., Thomas, S., Suvira, Vir, S., & Chopra, S. (2005). Basic Food Preparation – A Complete Manual. Delhi: Orient Longman.

• Srilakshmi, B. (2018). Food Science. Delhi: New Age International Publishers.

PRACTICAL PERIODS: 60 (CREDITS 2)

• Quality Testing of Flour

- Determination of water absorption power (WAP) of refined wheat flour and whole wheat flour. Sept,2022

- Determination of ash content in refined wheat flour. Dec,2022

- Determination of moisture content of refined wheat flour. Dec, 2022

• Sensory evaluation (by Hedonic scale) for various processed food products

• Preparation and sensory evaluation of cakes Sept-Oct 2022

• Fatless sponge (pineapple sponge, chocolate sponge and Swiss roll)

• Shortened cake (plain tea cake, Dundee cake, marble cake, fruit cake and innovative cakes)

• Eggless cake

• Cake Icing

• Preparation and sensory evaluation of pastry Nov, 2022

• Short crust (jam tarts)

• Puff/flaky (Bombay khari, vegetable patties)

• Choux pastry (chocolate éclair)

ASSESSMENT

1. At the end of each practical, students are assessed on the basic of their skill, understanding of the scientific concept, and technique of conducting the practical.

2. Quality/ end result of the practical.

3. Preparation of Practical File where they record the principle of the practical, methodology, its observations result and conclusion.

4. Viva.

5. At the end of each practical class they are marked on the basis of above four criteria.

6. Performance in Mock Test.

Shyama Prasad Mukherji College for Women

Teaching Plan

Course and Year: B.A. Programme and 2nd year

Semester: III

# Taught individually or shared: Individually

Paper: Confectionery Technology (SEC) Practical Faculty: Ms. Mamta Marwaha

No. of Classes (per week): 04

# COURSE OBJECTIVES:

* To learn basic principles of sugar cookery.
* To develop skills for preparation of confectionery products.

# COURSE LEARNING OUTCOMES:

* Demonstrate the effect of heat on sugar solutions at different temperatures.
* Show case skills developed for preparation of various crystalline and non-crystalline candies.
* Exhibit skills learnt for preparation of icing and cake decorations.

# COMPULSORY READING:

1. Manay, S. & Shadaksharaswami, M. (2004). Foods: Facts and Principles. Delhi: New Age Publishers.
2. Minifie, B.W. (1999). Chocolate, Cocoa and Confectionary. New York: Aspen Publication.
3. Sethi, M., & Rao, E. (2011). Food Science- Experiments and Applications, 2nd Edition. Delhi: CBS Publishers and Distributors Pvt. Ltd.

# ADDITIONAL RESOURCES:

1. Beckette, S.T. (2009). Industrial Chocolate Manufacture and Use. New Jersey: Blackwell Publishing Ltd.
2. Richard, W., Hartel, Joachim, H. von Elbe, & Randy Hofberger, R. (2018). Confectionery Science and Technology. 1st Edition. USA: Springer.
3. Raina, U., Kashyap, S., Narula, V., Thomas, S., Suvira, Vir, S., & Chopra, S. (2003). Basic Food Preparation - A Complete Manual. 3rd Ed. Delhi: Orient Longman Pvt. Ltd.

# WEBSITES:

* Icings: <https://nios.ac.in/media/documents/bakery/Lesson%204%20Icings.pdf>
* Introduction To Confectionery: [https://cbseportal.com/sites/default/files/DownloadVocational-](https://cbseportal.com/sites/default/files/DownloadVocational-e-Books-Bakery-and-Confectionery.pdf) [e-Books-Bakery-and-Confectionery.pdf](https://cbseportal.com/sites/default/files/DownloadVocational-e-Books-Bakery-and-Confectionery.pdf)
* Bakery and Confectionery: [http://www.eiilmuniversity.co.in/downloads/Bakery\_&\_confectionery.pdf](http://www.eiilmuniversity.co.in/downloads/Bakery_%26_confectionery.pdf)

# TEACHING LEARNING PROCESS:

* Experimental learning
* Lecture
* Demonstration
* Power Point Presentation
* Videos
* Quiz
* Assignments
* Handouts

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| Unit | Chapter | Week | No. of Classes | | Month |
|  | Introduction to Paper | Week  1 | 4 | | August’22 |
| Unit I | Sugars- Types and sources, methods of preparation of sugars, jaggery, khandsari, raw and refined sugar. Principles of sugar cookery, crystalline and non- crystalline candies.  Ref. Chapter 26– Manay.  E ref: <https://youtu.be/EP_fgp7zYKk> <https://youtu.be/jCKt02NGjfM> [https://youtu.be/RZ7Lhy-az\_Y,](https://youtu.be/RZ7Lhy-az_Y) [https://youtu.be/qYgQWMnBhRg,](https://youtu.be/qYgQWMnBhRg)  https://youtu.be/sMnRMZAE09Y | Week 2-4 | 12 | | August- Sept’22 |
| Practicals | | | | | |
| 1. | Determine the effect of heat on sugar solution and perform the thread and cold water test.  E ref: <https://goo.gl/images/G9todV> | Week  - 5 | | 4 | Oct’22 |
| 2. | To study the process of inversion, melting and caramelization in sucrose. | Week  - 6 | | 4 | Oct’22 |
| 3. | Preparation of fondant, fudge and brittles.  E ref: <https://youtu.be/Ga-IJa9F7AA> https://youtu.be/o4b9QdLkD54  <https://youtu.be/rCkSsSH0rO8> | Week- 7-8 | | 8 | Nov’22 |
| 4. | Preparation of shakarpara/chennamurki/candied Fruit/rock  candy/chocolates.  <https://youtu.be/q0bxf0eSBK0> https://youtu.be/cdNJrEryp\_4 | Week  - 9 | | 4 | Sept, 22 |

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| Unit II | Confectionary Products: Cake icings, hard-boiled candies, toffees, fruit drops, chocolates and other confections- ingredients, equipments & processes, product quality parameters, faults and corrective measures.  Ref. Chapter 5, 7 & 8 – Minifie. | Week- 10-11 | 8 | Oct’22-  Nov’22 |
| 5. | Preparation of candy and toffee and to perform quality assessment tests.  E ref: [http://www.candyhistory.net/candy-facts/candy-](http://www.candyhistory.net/candy-facts/candy-types/) [types/](http://www.candyhistory.net/candy-facts/candy-types/) | Week 12 -13 | 8 | Nov’22 |
| 6. | Preparation of icing and other cake decorations.  E ref: [https://www.bakersbodega.com/blog/different-](https://www.bakersbodega.com/blog/different-kinds-icing-cakes-cupcakes/#.WvRcecvhU0M) [kinds-icing-cakes-cupcakes/#.WvRcecvhU0M](https://www.bakersbodega.com/blog/different-kinds-icing-cakes-cupcakes/#.WvRcecvhU0M)  Royal icing: https://youtu.be/GO0\_aNbL6Do | Week 14- 15 | 8 | Dec’22 |
| 7. | Revision |  |  |  |

# Course Learning Objectives

|  |  |  |  |
| --- | --- | --- | --- |
| Unit No. | Course Learning | Outcomes Teaching and Learning Activities | Assessment Tasks |
| 1 | Students will have gained knowledge on different types of sugars, their preparation techniques, principles of sugar cookery, crystalline and non crystalline candies, confectionary products and chocolates.  Students will be able to demonstrate effect of heat on sugar solutions at different temperatures. They will be able to exhibit skills developed for preparation of  various candies and confectionary products. | Lecture on types of sugars and principles of sugar cookery. Discussion about various types of confectionary products.  Videos on preparation of various candies, demonstration of confectionary products. Practicals on preparation of various candies and confectionary products. | Class test focusing on types of candies and types of sugar. Quiz on principles of sugar cookery, power point presentations, assignments on confectionary products, exhibition of skills developed during practical classes, file records of practical’s and viva related to practical’s. |

ASSESSMENT

1. At the end of each practical, students will be assessed on the basic of their skill, understanding of the scientific concept, and technique of conducting the practical’s. Quizes and ppt’s will be done.
2. Quality/ end result of the practical.
3. Preparation of Practical File where they record the principle of the practical, methodology, its observations, result and conclusion.
4. At the end of each practical class they are marked on the basis of above four criteria’s
5. Viva