

## Syllabus For Chhana Sweet Product Maker

<b>Course Name</b>	Chhana Sweet Product Maker
<b>Sector</b>	Food Processing
<b>Course Code</b>	FPT/2024/CSPM/377
<b>Level</b>	3
<b>Occupation</b>	Chhana Sweet Product Maker
<b>Job Description</b>	The Chhana Sweet product maker is responsible to understand the raw material and ingredients used in manufacturing different types of chhana sweet product. Will also be responsible to make different types of chhana sweet product maintaining food hygiene and food safety.
<b>Course Duration</b>	Total Duration 420 Hrs (T-60, P-240, OJT-60 and ES-60)
<b>Trainees' Entry Qualification</b>	Grade 10 OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR 5th grade pass with 5 years relevant experience OR Previous relevant Qualification of NSQF Level 2 with one yr experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
<b>Trainers Qualification</b>	Class 12 <sup>th</sup> passed with 6 years' experience in chhana based sweet manufacturing units.

Structure of Course:

Module No.	Module name	Outcome	Compulsory/ Elective	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs)
1	<b>Chhana and its composition</b>	Describe the preparation of chhana and its composition	Compulsory	10	20		30
2	<b>Semi cooked and cooked chhana product</b>	Demonstrate the preparation of semi-cooked and cooked chhana dry products	Compulsory	10	50		60
3	<b>Juicy product of chhana</b>	Exhibit the preparation of Juicy product of chhana mixed with flour and khoa	Compulsory	10	50		60
4	<b>Clotted layered cream product</b>	Make the Partially desiccated sweetened milk	Compulsory	5	55		60

Module No.	Module name	Outcome	Compulsory/ Elective	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs)
		clotted layered cream product					
5	<b>Preparation of paneer from chhana</b>	Prepare Paneer from chhana	Compulsory	5	25		30
6	<b>Food safety and standards</b>	Maintain food safety and standards of chhana based product	Compulsory	10	20		30
7	<b>Hygiene and cleanliness</b>	Maintain personal hygiene, cleanliness at the workplace.	Compulsory	10	20		30
8	<b>OJT</b>	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	Compulsory	-	-	60	60
9	<b>Employability Skill</b>	As per guided curriculum	Compulsory	60	-		60
<b>TOTAL</b>				<b>120</b>	<b>240</b>	<b>60</b>	<b>420</b>

**SYLLABUS:****Module No. 1: Chhana and its composition****Outcome:** Describe the preparation of chhana and its composition**Theory Content:**

- Definition and Composition of milk
- Types of milk
- Handling of freshly produced milk
- Procurement and transportation of milk
- Microbiology of milk
- Contamination, its source, prevention and hygiene practice
- Cleaning and sanitization of dairy equipment
- Receiving of milk and checks for purity of milk
- Testing of milk
- Detection of milk adulterants
- Cooking media like wood, coal, diesel, gas, steam
- Traditional method of boiling milk (90-92°C)
- Pasteurization (LTLT and HTST method), modern
- UHT Technique
- Methods of Milk coagulation and coagulation temperature (85°C)
- Traditional method of coagulation including whey coagulation (whey temperature 70°C)
- Composition of chhana, Differences in cow milk and buffalo milk chhana
- Industrial and mechanized production of chhana from cow milk
- Quality characteristics of Chhana
- Yield of Chhana
- Preservation of chhana
- Shelf life, defects and spoilage of chhana

**Practical Content:**

- Determination of moisture, ash, total solid, SNF, Fat, lactose, protein, casein content of milk
- Determination of pH and titratable acidity of milk
- Methylene Blue Reduction Test and Phosphatase Test of milk
- Detection of adulterants of milk
- Use of lactometer
- Platform Test, clot on boiling test
- Methylene Blue Reduction Test
- Phosphatase Test
- Handling of pasteurizer and Handling of traditional heating devices
- Cleaning and sanitization of pasteurizer
- Milk coagulation technique for chhana making
- Yield calculation and composition of chhana
- Preservation techniques for chhana
- Shelf life studies of chhana
- Detection of defects in chhana
- Preparation of sugar syrup, brix measurement and its importance for juicy products

**Module No. 2: Semi cooked and cooked chhana product**

**Outcome:** Demonstrate the preparation of semi-cooked and cooked chhana dry products

**Theory Content:**

- Description of semi cooked chhana product
  - Katchagolla
    - Preparation of the products.
    - Quality characteristics of the products.
    - Shelf life of the products
  - Description and varieties of cooked chhana dry products
- a) Narampak sandesh (Kosturpak) (soft smooth grade)
- Monohora Sandesh
  - Rose Sandesh
  - Mango Sandesh
  - Nolen Gurer Jalbhara Sandesh
  - Gurer Sandesh
  - Gurer Monohara b) Karapak sandesh (hard grade)
  - Talshash Sandesh
- Preparation of the products.
  - Quality characteristics of the products.
  - Shelf life of the products.

**Practical Content:**

- Preparation and Quality characteristics of Semi-cooked chhana product
- Katchagolla
- Preparation and Quality characteristics of Cooked chhana dry products
- Narampak sandesh (Kosturpak) (soft smooth grade)
- Monohora Sandesh
- Nolen Gurer Jalbhara Sandesh,

- Gurer Monohara
- Karapak sandesh (hard grade)
- Talshash Sandesh
- Preparation and Quality characteristics of Cooked chhana Juicy/syrupy product
- Rosogolla
- Rosomalai
- Rajbhog
- Chamcham
- Mouchak

Preparation and Quality characteristics of Cooked chhana in concentrated milk

Products products

- Kheer Kadam,
- Malai Chamcham
- Dudh Puli
- Chhanar payes

Preparation and Quality characteristics of Cooked fried chhana pieces coated with sugar

- Chhana Murki
- Danadar

Preparation and Quality characteristics of Baked chhana with sugar, suji/maida

- Chhana Podo
- Baked Rosogolla

Preparation and Quality characteristics of Dry product of Chhana mixed with khoa, kaju pista

- Mixed Sandesh
- Burfi (Cashew burfi)

### **Module No. 3: Juicy product of chhana**

**Outcome:** Exhibit the preparation of Juicy product of chhana mixed with flour and khoa

#### **Theory Content:**

6.1 Description of Cooked chhana Juicy/syrupy product

- Rosogolla
- Rosomalai
- Rajbhog
- Chamcham
- Mouchak
- Preparation of the products.
- Quality characteristics of the products.
- Shelf life of the products.
- Description of Cooked chhana in concentrated milk products

- Chhana kheer
- Kheer Mohan
- Kheer Kadam,
- Boild chhana cubes in sweated concentrated milk
- Rosomundi
- MalaiChamcham
- Dudh Puli
- Chhanarpayes
- Preparation of the products.
- Quality characteristics of the products.
- Shelf life of the products

- Description of Juicy product of Chhana mixed with flour and khoa
  - Gulabjamun
  - Langcha
  - Ladikeni
  - Kalajamun
  - Pantua
  - Lal Mohan
  - ChhanarJilipi
  - Chitrakut
  - Preparation of the products.
  - Quality characteristics of the products.
  - Shelf life of the products
  - Description of Heat desiccated milk products-(Khoa based sweets)
- a) Sweet Khoa
- Pedas
  - Mohandas
  - Khurchan
  - Chandrapuli
- b) Acid coagulated khoa
- Kalakand
  - Milk Cake
  - Preparation of the products.
  - Quality characteristics of the products.
  - Shelf life of the products.

**Practical Content:**

- Preparation and Quality characteristics of Juicy product of Chhana mixed with flour and khoa
- Gulabjamun
- Langcha
- Ladikeni
- Kalajamun
- Preparation and Quality characteristics of Heat desiccated milk products
- Sweet Khoa
- Pedas
- Chandrapuli
- Acid coagulated khoa
- Kalakand

**Module No. 4: Clotted layered cream product**

**Outcome:** Make the Partially desiccated sweetened milk clotted layered cream product

**Theory Content:**

- Description of Partially desiccated sweetened milk clotted layered cream product
- Rabri
- Malai
- Malai Roll
- Basundi
- Preparation of the products.
- Quality characteristics of the products.
- Shelf life of the products.

- Description of Fried product of Chhana mixed with clotted layered milk cream
- Shor Bhaja
- Shor Puria
- Preparation of the products.
- Quality characteristics of the products.
- Shelf life of the products.

**Practical Content:**

Preparation and Quality characteristics of Partially desiccated sweetened milk clotted layered cream product

- Rabri
- Basundi

Preparation and Quality characteristics of Fried product of Chhana mixed with clotted layered milk cream

- Shor Bhaja
- Shor Puria

**Module No. 5: Preparation of paneer from chhana**

**Outcome:** Prepare Paneer from chhana

**Theory Content:**

Description of product and its standards

Methods of manufacture of paneer from chhana-

- Skimmed milk paneer(low fat paneer)
- Full cream paneer (high fat paneer)
- Yield and composition of the product
- Factors affecting the quality of the product
- Packaging and shelf life of the product.

Description of product and its standards

Methods of manufacture of Payasam /Kheer from milk with addition of cereal

- Rice kheer
- Saboodana payasam
- Semya / Semolina payasam
- Kaddu- ki- kheer
- Khas-Khas kheer
- Rava- payasam
- Coconut - kheer
- Lauki-ka- kheer
- Green gram dal payasam
- Bengal gram dal payasam
- Yield and composition of the product
- Factors affecting the quality of the product
- Packaging and shelf life of the product

**Practical Content:**

Preparation of paneer from chhana

- Skimmed milk paneer(low fat paneer)
- Full cream paneer (high fat paneer)

Preparation of Payasam/Kheer from milk with addition of cereal, pulses

- Rice kheer
- Semya / Semolina payasam
- Bengal gram dal payasam

### **Module No. 6: Food safety and standards**

**Outcome:** Maintain food safety and standards of chhana based product

#### **Content:**

- State food safety and standard Act 2006 BIS, ISO-22000, FSSAI regulations, International food standards.
- Application of HACCP and GMP in chhana based sweet  
State Personal Hygiene, cleaning and sanitary standards of chhana based sweet manufacturing units.

### **Module No. 7: Hygiene and cleanliness**

**Outcome:** Maintain personal hygiene, cleanliness at the workplace.

#### **Theory Content:**

- Explain the requirements of personal health, hygiene and fitness at work.
- Describe common health-related guidelines laid down by the organizations/ Government at the workplace.
- Explain the importance of good housekeeping at the workplace.
- Explain the importance of informing the designated authority on personal health issues related to injuries and infectious diseases.

#### **Practical Content:**

- Demonstrate personal hygiene practices to be followed at the workplace.
- Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs.
- Demonstrate the steps to follow to put on and take off a mask safely. Show how to sanitize and disinfect one's work area regularly.
- Demonstrate adherence to the workplace sanitization norms.
- Show how to ensure cleanliness of the work area.

### **Module 8: OJT**

**Outcome:** Work in real job situation with special emphasis on basic safety and hazards in this domain

#### **Practical Content:**

Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work

in actual workplace under any supervisor / contractor for **60 Hours.**)

### **Module 9: Employability Skills (60 Hrs)**

#### **Key Learning Outcomes**

#### **Introduction to Employability Skills**

Duration: 1.5

Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

#### **Constitutional values - Citizenship**

Duration: 1.5

Hours

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

#### **Becoming a Professional in the 21st Century**

Duration: 2.5

Hours

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

#### **Basic English Skills**

Duration: 10

Hours

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

#### **Career Development & Goal Setting**

Duration: 2

Hours

11. Create a career development plan with well-defined short- and long-term goals

#### **Communication Skills**

Duration:

5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

#### **Diversity & Inclusion**

Duration: 2.5

Hours



15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

### **Financial and Legal Literacy**

Duration:5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

### **Essential Digital Skills**

Duration: 10

Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

### **Entrepreneurship**

Duration:

7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

### **Customer Service**

Duration:

5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

### **Getting Ready for apprenticeship & Jobs**

Duration:

8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

Learning Outcome – Assessment Criteria

Module No.	Outcome	Assessment Criteria
1	Describe the preparation of chhana and its composition	<p><b>After completion of this module students will be able to:</b></p> <p>1.1 Explain different types of milk</p> <p>1.2 Describe the procurement and its transportation processes</p> <p>1.3 Conduct test on milk, including detection of adulterants</p> <p>1.4 Demonstration various cooking media and traditional boiling methods</p> <p>1.5 Explain chhana composition and differences in cow and buffalo milk chhana</p> <p>1.6 Determine moisture, ash, total solid, SNF, fat, lactose and protein content of milk</p> <p>1.7 Measure pH and titratable acidity of milk</p> <p>1.8 Conduct platform test by using lactometer</p> <p>1.9 Perform milk coagulation techniques for chhana making</p> <p>1.10 Calculate yield and analyze the composition of chhana</p> <p>1.11 Identify defect in chhana</p>
2	Demonstrate the preparation of semi-cooked and cooked chhana dry products	<p><b>After completion of this module students will be able to:</b></p> <p>2.1 Describe semi-cooked chhana product</p> <p>2.2 Demonstrate the process of Katchagolla preparation</p> <p>2.3 Prepare varieties of cooked chhana dry products, including Narampak Sandesh (Kosturpak), Monohora Sandesh, Rose Sandesh, Mango Sandesh, Nolen Gurur Jalbhara Sandesh, Gurur Sandesh, Gurur Monohara, Karapak Sandesh (hard grade), and Talshash Sandesh.</p> <p>2.4 Prepare each variety of cooked chhana dry product</p> <p>2.5 Prepare Kheer kadam, malai chamcham, dudh puli and chhanar payes, chhana murki and danadar</p> <p>2.6 Maintain desired quality for each dry product</p>
3	Exhibit the preparation of Juicy product of chhana mixed wit flour and khoa	<p><b>After completion of this module students will be able to:</b></p> <p>3.1 Prepare Rosogolla, Rosomalai, Rajbhog, Chamcham, and Mouchak.</p> <p>3.2 Cooked Chhana Kheer, Kheer Mohan, Kheer Kadam, Boiled Chhana Cubes in Sweated Concentrated Milk, Rosomundi, Malai Chamcham, Dudh Puli, and Chhanar Payes.</p> <p>3.3 Prepare Sweet Khoa, Peda, Mohandas,</p>

Module No.	Outcome	Assessment Criteria
		Khurchan, Chandrapuli, Kalakand, and Milk Cake. 3.4 Execute preparation for Gulabjamun, Langcha, Ladikeni, Kalajamun, Pantua, Lal Mohan and Chhanar Jilipi. 3.5 Maintain quality characteristics for both juicy chhana mixed with flour and khoa products and heat desiccated milk products
4	Make the Partially desiccated sweetened milk clotted layered cream product	<b>After completion of this module students will be able to:</b> 4.1 Describe Rabri, Malai, Malai Roll, and Basundi preparation methods 4.2 Articulate the quality characteristics specific to Rabri, Malai, Malai Roll, and Basundi. 4.3 Execute of the preparation methods for Rabri and Basundi. 4.4 Prepare Shor Bhaja and Shor Puria. 4.5 Assess the quality characteristics for both partially desiccated sweetened milk clotted layered cream products and fried products of chhana mixed with clotted layered milk cream.
5	Prepare Paneer from chhana	<b>After completion of this module students will be able to:</b> 5.1 Articulate the key characteristics that define the quality of each product paneer and payasam/kheer 5.2 Explain the manufacturing processes for skimmed milk paneer (low-fat paneer) and full cream paneer (high-fat paneer). 5.3 Manufacture various types of payasam/kheer, including rice kheer, saboodana payasam, semya/semolina payasam, kaddu-ki-kheer, khas-khas kheer, rava-payasam, coconut-kheer, lauki-ka-kheer, green gram dal payasam, and bengal gram dal payasam. 5.4 Explain quality characteristics for both paneer and payasam/kheer
6	Maintain food safety and standards of chhana based product	<b>After completion of this module students will be able to:</b> 6.1 Demonstrate the State Food Safety and Standard Act 2006, BIS (Bureau of Indian Standards), ISO-22000, FSSAI (Food Safety and Standards Authority of India) regulations, and relevant international food standards. 6.2 Apply the specified regulations and standards to the context of chhana-based sweet manufacturing, ensuring compliance with legal and quality requirements. 6.3 Implement the mentioned regulations and standards into the manufacturing processes of chhana-based sweets for ensuring food safety and quality. 6.4 Complete document and maintain records related to HACCP and GMP processes, showcasing a systematic approach to quality control.

Module No.	Outcome	Assessment Criteria
7	Maintain personal hygiene, cleanliness at the workplace.	<p><b>After completion of this module students will be able to:</b></p> <p>7.1 Maintain personal health, hygiene, and fitness in the workplace.</p> <p>7.2 Describe of common health-related guidelines provided by organizations or government bodies applicable to the workplace.</p> <p>7.3 Articulate the importance of good housekeeping in the workplace.</p> <p>7.4 Demonstrate the proper steps for putting on and taking off a mask safely.</p> <p>7.5 Follow workplace sanitization norms, including proper sanitization practices and maintenance of a clean work area.</p>
8	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).
9	Employability Skill	As per guided curriculum

**List of Tools, Equipment & materials needed for 30 Trainees (Practical)**

Sl No.	Name of the Tools and Equipment	Quantity
1	Incubator	1
2	Hot air oven	1
3	Lactometer	2
4	Muffle furnace	1
5	Heater	4
6	Garber centrifuge along with butyrometer	1
7	Bunsen burner	4
8	Gas oven with cylinder	1
9	Laboratory scale vat pasteurizer (20 lt capacity)	1
10	Weighing machine	2
11	Refractometer	4
12	Stainless steel jacketed-kettle, capable of rotating sideways around a fixed axis for milk coagulation.	1
13	Thermometer	4
14	Robo Rounder SA-1992(B) [Rasgulla/ Gulabjamun Making Machine]	1
15	Khoa Making Machine [For making Khoa, Kalakand, Sandesh etc.]	1
16	KajuMusta Machine [For making Khoa polish, Sandesh, KajuKatli]	1
17	Kadai [For making Khoa, Kalakand, Sandesh]	1
18	Refrigerator	1
19	Muslin cloth (1 meter)	12
20	Stainless steel trays	12
21	Stainless steel Cooking pot (Dekchi)	4
22	Stainless steel Cooking pan [Karai: casting(dhalai), beating (petano)]	2+2
23	Pressure cooker	2
24	Belan-chaki	4
25	Stainless steel Khunti	4
26	Moulds	4 dozen

SI No.	Name of the Tools and Equipment	Quantity
27	Ladle (Hata)	6
28	Cooking spud (Khunti)	6
29	Strainer (Jhanjri)	6
30	Knife	6
31	SS 304 container to keep sweets with sugar syrup (nouka, balti)	6
32	SS304 tank for keeping raw milk	6
33	SS304 plates for keeping sandesh	6
34	Specific Gravity meter.	2
35	Auto Titrator	1
36	Luminometer	1
37	Nucleocounter	1
38	Compound Microscope	2
39	Petri plate	2 dozen
40	Pipette (10ml, 5 ml, 2ml, 1ml)	2 dozen each
41	Burette	6
42	Test Tube	4 dozen
43	Thermometer	1
44	Innoculation Needle	6
45	Glass Slide	200

### Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr marks	Total OJT marks
Describe the preparation of chhana and its composition	FPT/1112/OC1	30	70	0
Demonstrate the preparation of semi-cooked and cooked chhana dry products	FPT/1112/OC2	30	110	0
Exhibit the preparation of Juicy product of chhana mixed with flour and khoa	FPT/1112/OC3	30	110	0
Make the Partially desiccated sweetened milk clotted layered cream product	FPT/1112/OC4	10	130	0
Prepare Paneer from chhana	FPT/1112/OC5	10	90	0
Maintain food safety and standards of chhana based product	FPT/1112/OC6	20	70	0
Maintain personal hygiene, cleanliness at the workplace.	FPT/1112/OC7	20	70	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	FPT/1112/OC8	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0