



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP  
DIRECTORATE GENERAL OF TRAINING

**COMPETENCY BASED CURRICULUM**

# **BAKER & CONFECTIONER**

(Duration: One Year)

**CRAFTSMEN TRAINING SCHEME (CTS)**

**NSQF LEVEL- 4**



**SECTOR –FOOD INDUSTRY**



Directorate General of Training

# BAKER & CONFECTIONER

(Non-Engineering Trade)

(Revised in 2019)

Version: 1.2

**CRAFTSMEN TRAINING SCHEME (CTS)**

**NSQF LEVEL - 4**

Developed By

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

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## 1. COURSE INFORMATION

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During the one-year duration of “Baker & Confectioner” trade, a candidate is trained on Professional Skill, Professional Knowledge and Employability Skill related to job role. In addition to this, a candidate is entrusted to undertake project work, extracurricular activities and on-the-job training to build up confidence. The broad components covered under Professional Skill subject are as below:

During the training period the trainee learns about elementary first-aid, firefighting, environment regulation and housekeeping, etc. The trainee identifies trade tools, kitchen equipment and kitchen operation process. He is aware of the importance of personal hygiene, cleanliness of bakery utensils, food handling and hygiene protective clothing. He practices safe handling of bakery equipments and other hand tools. He identifies basic ingredients, spices used in bakery. The trainee practices and prepares various types of bread and cakes. The trainee learns to prepare different types of cakes, icing, rolls, and pastries. Prepare different biscuits & Baking Biscuits, confectioneries and different Indian sweets. It is also demonstrated to the trainee via presentation about the activities which are not feasible to be practiced at the Institute. The trainee also undergoes four weeks on-the- job training in various hotel industries, bakeries and confectioneries at the end of the course which gives them more practical exposure to industrial environment.

### 2.1 GENERAL

The Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship offers a range of vocational training courses catering to the need of different sectors of the economy/ labour market. The vocational training programs are delivered under the aegis of Directorate General of Training (DGT). Craftsman Training Scheme (CTS) with variants and Apprenticeship Training Scheme (ATS) are two pioneer programs of DGT for Strengthening vocational training.

‘Baker & Confectioner’ trade under CTS is one of the popular courses delivered nationwide through a network of ITIs. The course is of one-year duration. It mainly consists of Domain area and Core area. In the Domain area (Trade Theory & Practical) impart professional skills and knowledge, while the core area (Employability Skill) imparts requisite core skills, knowledge, and life skills. After passing out the training program, the trainee is awarded National Trade Certificate (NTC) by DGT which is recognized worldwide.

#### **Candidates broadly need to demonstrate that they are able to:**

- Read and interpret parameters/documents, plan and organize work processes, identify necessary materials and tools;
- Perform tasks with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional skill, knowledge & employability skills while performing jobs.
- Document the parameters related to the task undertaken.

### 2.2 PROGRESSION PATHWAYS

- Can join industry as Baker/ Confectioner and will progress further as Senior Baker/ Confectioner, Supervisor and can rise to the level of Manager.
- Can become Entrepreneur in the related field.
- Can join Apprenticeship programs in different types of industries leading to a National Apprenticeship certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming instructor in ITIs.
- Can join Advanced Diploma (Vocational) courses under DGT as applicable.

## 2.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during a period of one year: -

S No.	Course Element	Notional Training Hours
1.	Professional Skill (Trade Practical)	1200
2.	Professional Knowledge (Trade Theory)	240
3.	Employability Skills	160
	<b>Total</b>	<b>1600</b>

## 2.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his skill, knowledge and attitude during the period of course through formative assessment and at the end of the training programme through summative assessment as notified by the DGT from time to time.

a) The Continuous Assessment (Internal) during the period of training will be done by **Formative Assessment Method** by testing for assessment criteria listed against learning outcomes. The training institute has to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the formative assessment template provided on [www.bharatskills.gov.in](http://www.bharatskills.gov.in)

b) The final assessment will be in the form of summative assessment. The All India Trade Test for awarding NTC will be conducted by Controller of examinations, DGT as per the guidelines. The pattern and marking structure are being notified by DGT from time to time. **The learning outcome and assessment criteria will be basis for setting question papers for final assessment. The examiner during final examination will also check** individual trainee's profile as detailed in assessment guideline before giving marks for practical examination.

### 2.4.1 PASS REGULATION

For the purposes of determining the overall result, weightage of 100% is applied for six months and one-year duration courses and 50% weightage is applied to each examination for two years courses. The minimum pass percent for Trade Practical and Formative assessment is 60% & for all other subjects is 33%. There will be no Grace marks.

## 2.4.2 ASSESSMENT GUIDELINE

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking the assessment. Due consideration should be given while assessing for teamwork, avoidance/reduction of scrap/wastage and disposal of scrap/waste as per procedure, behavioral attitude, sensitivity to the environment and regularity in training. The sensitivity towards OSHE and self-learning attitude are to be considered while assessing competency.

Assessment will be evidence based comprising the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work

Evidences and records of internal (Formative) assessments are to be preserved until forthcoming examination for audit and verification by examining body. The following marking pattern to be adopted while assessing:

Performance Level	Evidence
<b>(a) Weightage in the range of 60%-75% to be allotted during assessment</b>	
For performance in this grade, the candidate should produce work which demonstrates attainment of an acceptable standard of craftsmanship with occasional guidance, and due regard for safety procedures and practices	<ul style="list-style-type: none"> <li>• Demonstration of good skills and accuracy in the field of work/ assignments.</li> <li>• A fairly good level of neatness and consistency to accomplish job activities.</li> <li>• Occasional support in completing the task/ job.</li> </ul>
<b>(b) Weightage in the range of 75%-90% to be allotted during assessment</b>	
For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety procedures and practices	<ul style="list-style-type: none"> <li>• Good skill levels and accuracy in the field of work/ assignments.</li> <li>• A good level of neatness and consistency to accomplish job activities.</li> <li>• Little support in completing the task/job.</li> </ul>

(c) Weightage in the range of more than 90% to be allotted during assessment

For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.

- High skill levels and accuracy in the field of work/ assignments.
- A high level of neatness and consistency to accomplish job activities.
- Minimal or no support in completing the task/ job.

**Baker (Baking Products);** Confectioner (Flour Confectionery) mixes and bakes ingredients according to recipes to produce breads, pastries, and other baked goods. Measures flour, sugar, milk, butter, shortening, and other ingredients to prepare batters, doughs, fillings and icings, using scale and graduated containers; dumps ingredients into mixing machine bowl or steam kettle to mix or cook them according to specifications; rolls, cuts, and shapes doughs to form sweet rolls, pie crust, tarts, cookies, and related products preparatory to baking; places dough in greased or floured pans, moulds, or on sheets and bakes in oven or on grill; controls temperature of oven by regulating thermostats or by adjusting dampers; checks progress of baking by observing colour of products and noting length of time in oven; removes baked products and places them on cooling racks; applies glaze, icing, or other topping to baked goods, using spatula or brush.

May specialize in making one or more types of products such as breads, rolls, pies, or cakes and be designated accordingly as BAKER, BREAD; PASTRY MAKER; CAKE MAKER. May decorate cakes. May develop new recipes for cakes and icings.

**Oven Man (Bakery Products);** tends stationary or rotary hearth oven that bakes bread, pastries, and other bakery products. Heats oven to required temperature; places pans of unbaked goods on blade of long handled paddle; opens oven door and slides leaded paddle into oven; jerks paddle from under pans to deposit them on hearth; regulates and controls heat and humidity of oven by observing gauges, turning valves or other methods; notes colour of products during baking to ensure uniformity of finished products; removes baked goods from oven with paddle, and places them on tiered racks for cooling, flips switch to position hearth for loading and unloading when tending rotary hearth oven. May prepare doughs and wrap papers. May be designated according to type of oven tended as DRAWPLATE OVEN MAN; PEEL OVEN MAN; ROTARY PEEL OVEN MAN.

**Conche Operator (Sugar and Confectionery)** operates conche machine to heat and agitate refined chocolate mass with cocoa butter to enrich colour, flavour, and texture: Pumps specified amount of chocolate mixture into steam-heated stationary tank or rotary drum. Meters out specified amount of such ingredients as cocoa butter or flavourings. Turns steam valves and adjusts thermostat to heat contents of tank or drum to specified temperature. Pushes lever to start agitators and rotate drum. Pushes levers to change rate of agitation, drum rotation, and temperature, following specified time cycles. Observes and tastes mixture to evaluate conformity to standard and sends sample to laboratory for analysis. Adjusts temperature, agitation speed and timing cycle, and adds ingredients, such as cocoa butter and lecithin, according to laboratory findings. Pumps mixture to storage tank.

**Reference NCO-2015:**

- (i) 7512.0100 – Baker (Baking Products)
- (ii) 7512.0300 – Oven man (Bakery Products)
- (iii) 7512.0900 – Conche Operator (Sugar and Confectionery)

## 4. GENERAL INFORMATION

<b>Name of the Trade</b>	<b>BAKER &amp; CONFECTIONER</b>
<b>Trade Code</b>	DGT/1053
<b>NCO - 2015</b>	7512.0100, 7512.0300, 7512.0900.
<b>NSQF Level</b>	Level-4
<b>Duration of Craftsmen Training</b>	One Year
<b>Entry Qualification</b>	Passed 10 <sup>th</sup> class examination
<b>Minimum Age</b>	14 years as on first day of academic session.
<b>Eligibility for PwD</b>	LD, CP, LC, DW, AA, LV, HH, DEAF, AUTISM, SLD, ID
<b>Unit Strength (No. of Student)</b>	24 (There is no separate provision of supernumerary seats)
<b>Space Norms</b>	96 Sq m.
<b>Power Norms</b>	16.6 KW
<b>Instructors Qualification for:</b>	
<b>(i) Baker &amp; Confectioner Trade</b>	<p>B.Voc/Degree in Hotel Management/ Catering Technology/ Food Technology from UGC recognized University with one-year experience in the relevant field.</p> <p style="text-align: center;"><b>OR</b></p> <p>Diploma (Minimum 2 years) in Hotel Management/ Catering Technology/ Food Technology from a recognized board of education or relevant Advanced Diploma (Vocational) from DGT with two-year experience in the relevant field.</p> <p style="text-align: center;"><b>OR</b></p> <p>NTC/NAC passed in the trade of “Baker &amp; Confectioner” with three-year experience in the relevant field.</p> <p><b><u>Essential Qualification:</u></b> Relevant National Craft Instructor Certificate (NCIC) in any of the variants under DGT.</p> <p><b><i>NOTE: - Out of two Instructors required for the unit of 2(1+1), one must have Degree/Diploma and other must have NTC/NAC qualifications. However, both of them must possess NCIC in any of its variants.</i></b></p>

<b>(ii) Employability Skill</b>	MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years' experience with short term ToT Course in Employability Skills from DGT institutes. (Must have studied English/ Communication Skills and Basic Computer at 12th / Diploma level and above)  <p style="text-align: center;"><b>OR</b></p> Existing Social Studies Instructors in ITIs with short term ToT Course in Employability Skills from DGT institutes.		
<b>(iii) Minimum Age for Instructor</b>	21 Years		
<b>List of Tools and Equipment</b>	As per Annexure – I		
<b>Distribution of training on hourly basis: (Indicative only)</b>			
<b>Total Hrs. / Week</b>	<b>Trade Practical</b>	<b>Trade Theory</b>	<b>Employability Skills</b>
40 Hours	30 Hours	6 Hours	4 Hours

## 5. LEARNING OUTCOME

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*Learning outcomes are a reflection of total competencies of a trainee and assessment will be carried out as per the assessment criteria.*

### 5.1 LEARNING OUTCOMES (TRADE SPECIFIC)

1. Maintain hygiene and cleanliness of bakery, bakery equipment & utensils following safety precaution.
2. Identify the basic ingredients which will help to prepare bakery products.
3. Prepare different types of khari, puff, bakery bread and Rusk making bakery bread making.
4. Check the quality of baking and causes of spoilage.
5. Prepare hotel- ready baked different bread products.
6. Plan & prepare different types of cakes.
7. Prepare various icing.
8. Prepare special types of cakes.
9. Prepare different types of pastries.
10. Prepare different types of biscuits.
11. Prepare different types of confectioneries.
12. Prepare different types of candies, chocolates and toffees.
13. Prepare puddings & Indian sweets.

## 6. ASSESSMENT CRITERIA

LEARNING OUTCOME	ASSESSMENT CRITERIA
1. Maintain hygiene and cleanliness of bakery, bakery equipments & utensils following safety precaution.	Demonstrate safety practices to be observed in Bakery.
	Demonstrate use of personal protective dresses.
	Demonstrate procedure to maintain personal hygiene, care of skin, hand, feet, food handlers etc.
	Demonstrate disposal procedure of waste materials.
	Demonstrate use of hygienic protective clothing.
2. Identify the basic ingredients which will help to prepare bakery products.	Identify commonly used bakery equipments.
	Demonstrate and identify commonly used handling tools in bakery.
	Demonstrate and identify commonly used raw ingredients.
	Identify commonly used different flour.
	Demonstrate commonly used bakery oven.
3. Prepare different types of khari, puff, bakery bread and Rusk making.	Demonstrate & prepare Khari & Puff.
	Demonstrate & prepare varieties of bread rolls.
	Demonstrate & prepare bread stick.
	Demonstrate & prepare 3 varieties of bread.
	Demonstrate & prepare 3 varieties of buns.
	Prepare croissants.
	Prepare 3 varieties of dough.
	Prepare any 4 varieties of special bread.
	Prepare varieties of rusks.
4. Check the quality of baking and causes of spoilage.	Demonstrate volume of bread at proper baking.
	Demonstrate the texture of bread at proper baking.
	Explain the causes of fungus.
	Identify the characteristics of good baking.
5. Prepare hotel- ready baked different bread products.	Plan and demonstrate baked menu preparation.
	Make plan for purchasing ingredients for specific baked menu.
	Prepare cheese straws.
	Prepare burgers.
	Prepare pau buns.
	Prepare Christmas bread.
	Prepare kulcha.
	Prepare banana bread.

6. Plan & prepare different types of cakes.	Demonstrate the ingredients of different 3 cakes and baking procedure.
	Prepare sponge cake.
	Prepare Madeira cake
	Prepare Genoese cake
	Prepare fatless cake.
	Prepare rock cake.
Demonstrate & prepare fillings different flavours in cakes	
7. Prepare various icing.	Make plan & identify the different ingredients to prepare different icing.
	Identify various icing equipment and cutter.
	Prepare different types of icing.
8. Prepare special types of cakes.	Plan the making methods.
	Demonstrate the ingredients of different special types of cakes.
	Identify the correct temperature of baking cakes.
	Identify the faults and remedies of cakes and balancing the cake formulae.
	Identify the factors affecting the quality of cakes.
	Prepare different types of special cakes.
9. Prepare different types of pastries.	Plan menu, choose spices and ingredients for the pastries.
	Follow safety norms and maintain proper hygiene while preparing of pastry.
	Identify the faults in pastry making.
	Prepare different types of pastries.
10. Prepare different types of biscuits.	Plan & identify the different ingredients to prepare different Biscuits.
	Demonstrate the faults and its remedies to prepare biscuits.
	Prepare any one type of Cookies.
	Prepare any one type of biscuits.
11. Prepare different types of confectioneries.	Prepare profiteroles and chocolate éclairs.
	Prepare Cream burns and fingers.
	Follow safety norms and maintain proper hygiene while preparation of items.
12. Prepare different types of candies, chocolates	Plan menu and ingredients for the items.
	Prepare sugar candies.

and toffees.	Prepare amorphous confectionery.
	Prepare chocolates.
13. Prepare puddings & Indian sweets.	Plan menu, choose spices and ingredients for the pudding and sweets.
	Follow safety norms and maintain proper hygiene while preparation of items.
	Prepare any one of the pudding.
	Prepare any 3 of the sweets.
	Demonstrate different packaging processes.

<b>SYLLABUS FOR BAKER &amp; CONFECTIONER TRADE</b>			
<b>DURATION: ONE YEAR</b>			
<b>Duration</b>	<b>Reference Learning Outcome</b>	<b>Professional Skills (Trade Practical) With Indicative Hours</b>	<b>Professional Knowledge (Trade Theory)</b>
Professional Skill 60 Hrs.;  Professional Knowledge 12 Hrs.	Maintain hygiene and cleanliness of bakery, bakery equipments & utensils following safety precaution.	<ol style="list-style-type: none"> <li>1. Introduction to Bakery &amp; Confectionery Section (06 hrs)</li> <li>2. Demonstrate &amp; practice grooming, Personal hygiene in bakery. (05 hrs.)</li> <li>3. Demonstrate &amp; practice Dos &amp; Don'ts as a baker &amp; confectioner. (09 hrs.)</li> <li>4. Visit to Bakery industry. (10 hrs.)</li> </ol>	<p>Introduction to Baker &amp; confectioner industry.</p> <p>An orientation programme on the course and related job</p> <p>Career opportunities in Bakery &amp; Confectionery.</p> <p>Organizational hierarchy of Baker &amp; Confectioner Department.</p> <p>Attributes of Baker &amp; Confectioner services personals.</p> <p>Duties and responsibilities of Baker &amp; Confectioner service personals. (06 hrs.)</p>
		<ol style="list-style-type: none"> <li>5. Perform elementary first aid. (05 hrs.)</li> <li>6. Demonstrate safety practices to be observed in bakery. (06 hrs.)</li> <li>7. Use of personal protective dresses. (05 hrs.)</li> <li>8. Perform hygiene/ cleanliness and procedure to maintain it. (05 hrs.)</li> <li>9. Perform disposal procedure of waste materials. (05 hrs.)</li> <li>10. Identify emergency exit route, practice firefighting and use of fire extinguishers. (04 hrs.)</li> </ol>	<p>First-aid for cuts/ burns and its importance.</p> <p>Fire hazards, contents of first aid.</p> <p>Personal safety and industrial safety.</p> <p>Personal hygiene &amp; Care of Skin, Hand, Feet, Food handlers. Hygienic protective clothing.</p> <p>Grooming and Etiquettes.</p> <p>Working area hygiene and its importance.</p> <p>Preparedness for emergency situations.</p> <p>Waste management. (06 hrs.)</p>
Professional Skill 60 Hrs.;	Identify the basic ingredients which help to prepare	11. Identify and handling Baker & Confectioner equipment (08 Hrs.)	<p>Structure of wheat grain.</p> <p>Different types of flour available.</p>

<p>Professional Knowledge 12 Hrs.</p>	<p>bakery products.</p>	<p>12. Identify and handling tools used in baker and confectioner (08 hrs.) 13. Identify / familiarize commonly used raw ingredients. (08 hrs.) 14. Demonstrate and identify commonly used gluten content of flour, moisture content of flour and water absorption of flour. (10 hrs.) 15. Demonstrate and practice of bakery machines-Dough machine, oven, microwave oven, deep freezers, hot cub boards, juicer, miser &amp; grinder. (16 hrs.) 16. Demonstrate/ video presentation on other raw materials used in bakery. (10hrs.)</p>	<p>Constituents of flour, PH value of flour, Water absorption power of flour, Gluten formation, Capacity of flour, Grade by flour. Milling of wheat a role of bran and germs. Classification of Raw material seasoning &amp; flavouring agents. Basic Principle of food storage according to type flavouring agents of commodities. (12 hrs.)</p>
<p>Professional Skill 300 Hrs.;</p> <p>Professional Knowledge 60 Hrs.</p>	<p>Prepare different types of khari, puff, bakery bread and Rusk making.</p>	<p>17. Prepare a. Various types of Khari b. Various types of Puff (10 hrs.) 18. Prepare a. Bread rolls, (10 hrs.) b. Bread stick, (10 hrs.) c. Soft rolls (10 hrs.) d. Hot cross Buns (15 hrs.) e. Fruit Buns. (15hrs.) f. Chelsea Bun (10hrs.) 19. Prepare various types of Rusks. (10 hrs.)</p>	<p>Different cereal &amp; flour for the bakery products - Quality of flour - Starch: - Availability of starch in different cereals. Uses of starch, Extraction of starch, Different products of grain starch. (18 hrs.)</p>
		<p>20. Prepare a. Croissants. (20 Hrs.) b. Brioche &amp; fermented dough nuts. (25 hrs.) c. Russian stouten basic bun dough (25 hrs.) d. Savarin dough. (20 hrs.)</p>	<p>Calculation: Simple table, Weight &amp; measures, Measurements of liquid, Different measures used in the bakery &amp; confectionary. - Aims and objective of baking food.</p>

			<ul style="list-style-type: none"> <li>- Raw material required for Bread making.</li> <li>- Role of flour, Water, Yeast, Salt, Sugar, Milk &amp; fats. (18 hrs)</li> </ul>
		<p>21. Prepare</p> <ul style="list-style-type: none"> <li>a. White Bread (400 gms. &amp; 800 gms.) (12 hrs.)</li> <li>b. Brown Bread. (12hrs.)</li> <li>c. Vienna Bread (12 hrs.)</li> <li>d. Fancy Bread (12 hrs.)</li> <li>e. French Bread (12 hrs.)</li> </ul>	<p>Principals involved for bread preparation</p> <p>Different types of breads and their properties, ingredients used.</p> <p>Method of Bread Making.</p> <p>Straight dough method, No-time dough method, Sponge and dough method. (12 hrs.)</p>
		<p>22. Prepare</p> <ul style="list-style-type: none"> <li>a. Whole meal Bread (12 hrs)</li> <li>b. Masala Bread (12 hrs.)</li> <li>c. Milk Bread (12 hrs.)</li> <li>d. Raisin Bread. (12 hrs.)</li> <li>e. Fruit Bread (12 hrs.)</li> </ul>	<p>Characteristic of Good Bread.</p> <p>External Characteristics.</p> <p>Internal Characteristic</p> <p>Bread faults &amp; their remedies.</p> <ul style="list-style-type: none"> <li>- Yeast: - An elementary knowledge of Baker's yeast.</li> <li>- Role of yeast in the fermentation of dough a conditions influencing it's working.</li> <li>- Effect of over &amp; under fermentation and under proofing of dough &amp; other fermented products. (12 hrs.)</li> </ul>
<p>Professional Skill 30 Hrs.;</p> <p>Professional Knowledge 06 Hrs.</p>	<p>Check the quality of baking and causes of spoilage.</p>	<p>23. Identify &amp; evaluate the characteristics of bread:</p> <ul style="list-style-type: none"> <li>a. Volume of bread.</li> <li>b. Texture of bread. (18 hrs.)</li> </ul> <p>24. Identify the causes of spoilage of bread due to fungus. (12 hrs.)</p>	<ul style="list-style-type: none"> <li>- Factors affecting the quality of the bread.</li> </ul> <p>Characteristic of Good Bread:</p> <ul style="list-style-type: none"> <li>- External Characteristics</li> <li>- Internal Characteristics.</li> <li>- Bread diseases: -</li> <li>- Rope and Mould causes &amp; its prevention.</li> <li>- Staling of bread</li> </ul> <p>Bread Improvers, Improving physical quality. (06 hrs.)</p>
<p>Professional Skill 90 Hrs.;</p>	<p>Prepare hotel ready baked</p>	<p>25. Prepare</p> <ul style="list-style-type: none"> <li>a. Pizza base. (18 hrs.)</li> </ul>	<p>Oven Baking: -</p> <ul style="list-style-type: none"> <li>- Elementary Knowledge of</li> </ul>

Professional Knowledge 18 Hrs.	different bread products.	<ul style="list-style-type: none"> <li>b. Cheese straws (12hrs.)</li> <li>c. Burgers (12 hrs.)</li> <li>d. Pau Buns (12hrs.)</li> <li>e. Christmas Bread (12 hrs.)</li> <li>f. Kulcha (12 hrs.)</li> <li>g. Banana Bread (12 hrs.)</li> </ul>	<p>oven</p> <ul style="list-style-type: none"> <li>- Types of oven</li> <li>- Temperature Chart</li> <li>- Bakery Lay-out:</li> <li>- The required approval for setting up a bakery.</li> <li>- Government Procedures &amp; e-bylaws.</li> <li>- Selection of Site.</li> <li>- Selection of equipment.</li> <li>- Quality Control of raw material.</li> <li>- Quality Control of finished product. (18 hrs.)</li> </ul>
Professional Skill 60 Hrs.;  Professional Knowledge 12 Hrs.	Plan & prepare different types of cakes.	<p>26. Prepare --</p> <ul style="list-style-type: none"> <li>- Sponge Cake (10 hrs.)</li> <li>- Madeira Cake (10 hrs.)</li> <li>- Genoese Cake (10 hrs.)</li> <li>- Fatless Cake (10 hrs.)</li> <li>- Rock Cake (10 Hrs.)</li> </ul> <p>27. Prepare fillings for different flavours in cakes. (10 hrs.)</p>	<p>Cakes:</p> <ul style="list-style-type: none"> <li>- Methods for the production of cakes.</li> <li>- Raw Material required for cake Making.</li> <li>- Role of ingredients like flour, sugar, shortening and egg for cake production.</li> <li>- Machinery involved in cake production. (12 hrs)</li> </ul>
Professional Skill 90 Hrs.;  Professional Knowledge 18 Hrs.	Prepare various icing.	<p>28. Prepare various icing-</p> <ul style="list-style-type: none"> <li>a. Fondant (7 hrs.)</li> <li>b. American (7 hrs.)</li> <li>c. Frosting (7 hrs.)</li> <li>d. Butter Cream (7 hrs.)</li> <li>e. Cream icing (7 hrs.)</li> <li>f. Royal Icing (7 hrs.)</li> <li>g. Marzipans (7 hrs.)</li> <li>h. Marshmallow (7 hrs.)</li> <li>i. Lemon Meringue (7 hrs.)</li> <li>j. Fudge (9 hrs.)</li> <li>k. Almond Paste (9 hrs.)</li> <li>l. Glace Icing (9 hrs.)</li> </ul>	<p>Types of icings.</p> <ul style="list-style-type: none"> <li>- Various types of Ice cream bombe.</li> <li>- Introduction to various icing equipment:</li> <li>a. Piping bags</li> <li>b. Nozzles</li> <li>c. Platte knife</li> <li>d. Different types of designing cutters (18 hrs.)</li> </ul>
Professional Skill 90 Hrs.;	Prepare special types of cakes.	<p>29. Prepare different Cakes &amp; gateaux</p> <ul style="list-style-type: none"> <li>a. Queen Cake (6 hrs.)</li> </ul>	<p>Cake making method:</p> <ul style="list-style-type: none"> <li>- Sugar Batter Process,</li> <li>- Flour batter Process,</li> </ul>

<p>Professional Knowledge 18 Hrs.</p>		<p>b. Fruit Cake (6 hrs.) c. Birthday Cake (6 hrs.) d. Wedding Cakes (6 hrs.) e. Black Forest gateaux (6 hrs.) f. Easter eggs (6 hrs.) g. Chocolate dripping (6 hrs.) h. Fruit Gateaux (6 hrs.) i. Baba au Rhum (6 hrs.) j. Swiss Rolls (6 hrs.) k. Strudel (6 hrs.) l. Doughnuts (6 hrs.) m. Meringues (6 hrs.) n. Madeline Cake (6 hrs.) o. Cheese Cake (6 hrs.)</p>	<p>- Genoese Method, - Blending and Rubbing Method Correct temperatures for baking various varieties of cake. Factors affecting the quality of cake. Characteristic of Cakes- Internal &amp; External. Balancing of Cake Formula. Cake faults and their remedies. (18 hrs.)</p>
<p>Professional Skill 30 Hrs.;  Professional Knowledge 06 Hrs.</p>	<p>Prepare different types pastries.</p>	<p>30. Perform to prepare a. Pineapple Pastry (6 hrs.) b. Chocolate Pastry (6 hrs.) c. Truffle Pastry (6 hrs.) d. Black forest (6 hrs.) e. Mocha Pastry (6 hrs.)</p>	<p>- Knowledge of Genoese making. - Correct temperature and time. - Proper knowledge of equipment. - Faults in pastry making Internal &amp; external. (06 hrs.)</p>
<p>Professional Skill 90 Hrs.;  Professional Knowledge 18 Hrs.</p>	<p>Prepare different types of biscuits.</p>	<p>31. Prepare a. Plain Biscuits (06 hrs.) b. Salted Biscuits (06 hrs.) c. Piping Biscuits (06 hrs.) d. Marble Biscuits (06 hrs.) e. Cheese Biscuits (06 hrs.)</p> <p>32. Prepare market available biscuits. a. Coconut Biscuits (6 hrs.) b. Macaroons (6 hrs.) c. Melting moment's short bread biscuit. (7 hrs.)</p>	<p>- Preparation of cookies and Biscuits. - Factors affecting the quality of Biscuits &amp; cookies. - Raw material required for cookies making - Faults – Internal &amp; External causes of cookies &amp; Biscuits making &amp; their remedies (06 hrs.)</p> <p>- Role of flour, sugar, shortening &amp; eggs etc. - An elementary knowledge of properties and use of moistening agents.(12 hrs.)</p>

		<ul style="list-style-type: none"> <li>d. Tricolour Biscuits (7 hrs.)</li> <li>e. Chocolate Biscuits (7 hrs.)</li> <li>f. Non-Khatai (6 hrs.)</li> <li>g. Cherry knobs nuts Biscuits (6 hrs)</li> <li>h. Lemon Torts (7 hrs.)</li> <li>i. Jam Torts (8 hrs.)</li> </ul>	
<p>Professional Skill 30 Hrs.;</p> <p>Professional Knowledge 06 Hrs.</p>	<p>Prepare different types of confectioneries.</p>	<p>33. Prepare</p> <ul style="list-style-type: none"> <li>a. Profiteroles (6 hrs.)</li> <li>b. Chocolate Éclairs (6 hrs.)</li> <li>c. Cream Buns (6 hrs.)</li> <li>d. Cream Fingers (6 hrs.)</li> <li>e. Patties (Veg., Cheese &amp; Chicken) (6 hrs.)</li> </ul>	<p>Principles of Pastry making &amp; its various derivatives:</p> <ul style="list-style-type: none"> <li>- Short crust paste</li> <li>- Choux paste</li> <li>- Puff paste</li> <li>- Flaky paste (06 hrs.)</li> </ul>
<p>Professional Skill 60 Hrs.;</p> <p>Professional Knowledge 12 Hrs.</p>	<p>Prepare different types of candies, chocolates and toffees.</p>	<p>34. Prepare</p> <ul style="list-style-type: none"> <li>a. Sugar boiled confectionery. (10 hrs.)</li> <li>b. Different types of sugar candies and zuzups &amp; jellies. (10 hrs.)</li> <li>c. Amorphous confectionery (10 hrs.)</li> <li>d. Crystalline confectionery i.e. candies etc. (10 hrs.)</li> </ul> <p>35. Prepare</p> <ul style="list-style-type: none"> <li>a. Milk Toffee,(10 hrs.)</li> <li>b. Chocolates, (10 hrs.)</li> </ul>	<p>Study of Confectionery Ingredients like Starch and its derivatives,</p> <p>An Elementary knowledge of source, properties &amp; use of fats, oils used for confectionary products.</p> <p>Characteristic of chemicals and leavening agents.</p> <p>Study of sugar boiled confectionery like Amorphous confectionery &amp; Crystalline confectionery</p> <p>Introduction to the confectionary work.</p> <p>Confectionary terms.</p> <p>Introduction to the basic tools used in the confectionary</p> <p>Role of flour, sugar, shortening and egg</p> <p>Knowledge of different sauces which are used in confectionery like:</p> <ul style="list-style-type: none"> <li>- Truffle sauce,</li> <li>- Cherry sauce,</li> <li>- Strawberry puree</li> </ul>

			Knowledge of white chocolate & cocoa powder Storage of confectionary products (12 hrs.)
Professional Skill 90 Hrs.;  Professional Knowledge 18 Hrs.	Prepare puddings & Indian sweets.	<p>36. Prepare Puddings:-</p> <ol style="list-style-type: none"> <li>Bavarois cold (5 hrs.)</li> <li>lemon soufflé (5 hrs.)</li> <li>chocolate mousse, (5 hrs.)</li> <li>Ginger pudding (5 hrs)</li> <li>Soufflé Praline (5 hrs.)</li> <li>Fruit Trijjle(5 hrs.)</li> </ol> <p>37. Prepare Indian Sweets:-</p> <ul style="list-style-type: none"> <li>- Rasgulla (6 hrs.)</li> <li>- Chamcham (6 hrs.)</li> <li>- Rasmalai (6 hrs.)</li> <li>- Gulabjamun (6 hrs.)</li> <li>- Mysore Paok(6 hrs.)</li> <li>- Kheer (5 hrs.)</li> <li>- Rabri (5 hrs.)</li> <li>- Bueji (5 hrs.)</li> <li>- Chekki (5 hrs.)</li> </ul> <p>38. Various type of packaging of bake products. (10 hrs.)</p>	<p>Protection of food &amp; contamination. Common pest control in Bakery. Safety: - Causes of Accidents in Bakery &amp; its prevention. Introduction of Indian Sweets prepared in halwai section &amp; its ingredients, preparation procedures, uses &amp; derivatives</p> <p>–</p> <ul style="list-style-type: none"> <li>- Channa,</li> <li>- Sugar syrups,</li> <li>- Khoya&amp; dry fruits</li> </ul> <p>Co-ordination of Bakery &amp; confectionary with other section of main kitchen. Difference between Indian &amp; Western Confectionery To know various types of packaging materials. (18 hrs.)</p>
144 Hrs.	<p>On-the-Job Training (OJT).</p> <p><i>During OJT, students have to maintain a logbook on daily basis indicating activities performed during the day which shall also be countersigned by section/ department supervisor.</i></p>		
<p><b>Project work/ Industrial visit</b></p> <p><b>Broad Areas:</b></p> <ol style="list-style-type: none"> <li>Prepare different special types of cakes.</li> <li>Prepare special chocolates, toffees, patties, and Indian sweets.</li> <li>Plan &amp; prepare different types of bakery &amp; confectionery products.</li> </ol>			

## SYLLABUS FOR CORE SKILLS

1. Employability Skills (Common for all trades) (160 Hrs.)

*Detailed syllabus of Core Skills subjects which is common for a group of trades, provided separately in the same portal where the trade syllabus is uploaded.*

LIST OF TOOLS & EQUIPMENT			
BAKER & CONFECTIONER (for batch of 24 Candidates)			
S No.	Name of the Tools and Equipment	Specification	Quantity
<b>A. TRAINEES TOOL KIT</b>			
1.	All size Knife	3 varieties of Knife	(24+1) sets
2.	Peeler		(24+1) nos.
3.	Scooper		(24+1) nos.
4.	Chef coat and trouser		(24+1) nos.
5.	Kitchen duster		(24+1) nos.
6.	Apron		(24+1) nos.
7.	Safety Shoe		(24+1) pairs
8.	Chef cap and scarf		(24+1) nos. Each
<b>B. SHOP TOOLS &amp; EQUIPMENT</b>			
<b>(i) List of Tools:</b>			
9.	Cookie sheets		12 nos.
10.	Baking sheets		12 nos.
11.	Jelly roll Pans	12½ "x 17½" x ½ "	03 nos.
12.	Layer cake pans	9" dia and high 2 ½ "	03 nos.
13.	Cooking Range (High)	9¼ x 5¼ x 2½ inch	03 nos.
14.	Muffin pans	Having 6 cups with 1 ¾ "depth	03 nos.
15.	Sheet cake pans	13 x 9 x 2 inch	03 nos.
16.	Spring forms pan		03 nos.
17.	Square Baking pans	8"X9"x 2 ½ "	03 nos.
18.	Tube pans		03 nos.
19.	Angel food cake pans		03 nos.
20.	Bundt pans		03 nos.
21.	Fluted tube pans		03 nos.
22.	Traditional pie pan	9" dia x 2 ½ "depth	03 nos.
23.	Deep dish pie pan		03 nos.
24.	Flan rings		03 nos.
25.	Tart pans		03 nos.
26.	Wooden Spatula		06 nos.
27.	Strainers	(i) Conical (ii) Strainers	03 nos. 04 nos.
28.	Perforated Spoon		05 nos.
29.	Steel Bowls	(i) Small (ii) Medium	12 nos. Each

		(iii) Big	
30.	Steel Slicer		05 nos.
31.	Probe thermometer	75 - 150°C	01 no.
32.	Cake stand		02 nos.
33.	Colander		03 nos.
34.	Baking Try		05 nos.
35.	Holder (Togs)		05 nos.
36.	Heat proof gloves		02 pairs
37.	Saucepan		05 nos.
38.	SS Tray		06 nos.
39.	Pie Dish		06 nos.
40.	Mugs (Steel)	Small, Medium, Large	03 nos. Each
41.	Steel Plates		10 nos.
42.	Steel Spoons		10 nos.
43.	Steel Ladle		10 nos.
44.	Balloon Whisk	Small size	05 nos.
45.	Measuring Jars	Up to 1 liter	03 nos.
46.	Containers	(For keeping dry items)	As required
47.	Serving dish		08 nos.
48.	Grinding Stone		02 nos.
49.	Bread Moulds		05 nos.
50.	Coconut Grater		02 nos.
51.	Baking equipment	(i) Cake moulds (ii) Muffin moulds (iii) Mixing bowls (iv) Pizza cutter (v) Cookie cutter (5 shapes)	05 nos. 12 nos. 02 nos. 01 no. 02 nos. Each
<b>(ii) List of Equipment:</b>			
52.	Refrigerator	365 Ltr.	01 no.
53.	Chest Freezer		01 no.
54.	Deep fat fryer	05 Ltrs. (Portable)	01 no.
55.	Sandwich griller/toaster		01 no.
56.	Microwave oven	15 Ltrs. min.	01 no.
57.	Grinder Machine	10 Ltrs. capacity (min)	01 no.
58.	Blender/Mixer		01 no.
59.	Juicer machine		01no.
60.	Salamander		01 no.
61.	Dough Kneading Maker	With attachments	01 nos.
<b>C. SHOP FLOOR FURNITURE AND MATERIALS</b>			
62.	Instructor's table		01 no.
63.	Instructor's chair		02 nos.
64.	Locked lockers		03 nos.

65.	White board	(Minimum 4 x 6 feet)	01 no.
66.	Fire Extinguisher CO <sub>2</sub>	2 KG	02 nos.
67.	Fire Buckets	Standard size	02 nos.
68.	Proper Electric & Gas Connections		01 no.
69.	Dustbins	Colour coded	05 nos.
70.	Working table	1 table /6 student	4 nos.
71.	Hand wash basin		05 nos.
72.	Hygiene Kit		05 nos.
73.	Wash Basins		04 nos.
74.	Chart denoting the Do's and Don'ts Kitchen		01 no.

**Note: -**

1. All the tools and equipment are to be procured as per BIS specification.
2. Internet facility is desired to be provided in the classroom.

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts, trainers of ITIs, NSTIs, faculties from universities and all others who contributed in revising the curriculum.

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<b>List of Expert Members contributed/ participated for finalizing the course curriculum of Baker and Confectioner trade held on 20.02.2018 at ITI Tarsali, Vadodara.</b>			
<b>S No.</b>	<b>Name &amp; Designation Sh/Mr/Ms</b>	<b>Organization</b>	<b>Remarks</b>
1.	Laxmi Das Hindocha Managing Director	Transpek Industries Ltd. Vadodara	Chairman
2.	S. A. Pandav RDD, Vadodara	DET Gujarat	Member/ Coordinator
3.	L. K. Mukherjee, DDT	CSTARI, Kolkata	Member
4.	Nikunj Kumar R. Patel	Baroda, Dairy, Vadodara	Member
5.	Nirmal N. Patel	Baroda, Dairy, Vadodara	Member
6.	Birendra Kumar Manager (Production)	Vidya Dairy, Anand	Member
7.	Ajay M. Zala Dy. Manager (Dairy)	Vidya Dairy, Anand	Member
8.	M. G. Meghani OSD	KDCMPU Ltd., Anand	Member
9.	Mayank I. Patel Dy. Manager	KDCMPU Ltd., Anand	Member
10.	Hiren J. Purohit HR Officer	Laxmi Cukezone Pvt. Ltd., Anand	Member
11.	Harun Saiyad Store Incharge	Laxmi Cukezone Pvt. Ltd., Anand	Member
12.	R. S. Kate, Sales Head	R. K. Foods, Tarsali, Gujarat	Member
13.	Jitendra, Manager	Dungee Dum Ltd., Tarsali, Gujarat	Member
14.	Y. B. Joshi, Pricipal	ITI Khambat, Gujarat	Member
15.	K.V.S. Narayana Training Officer	CSTARI, Kolkata	Member/ Coordinator

## ABBREVIATIONS

CTS	Craftsmen Training Scheme
ATS	Apprenticeship Training Scheme
CITS	Craft Instructor Training Scheme
DGT	Directorate General of Training
MSDE	Ministry of Skill Development and Entrepreneurship
NTC	National Trade Certificate
NAC	National Apprenticeship Certificate
NCIC	National Craft Instructor Certificate
LD	Locomotor Disability
CP	Cerebral Palsy
MD	Multiple Disabilities
LV	Low Vision
HH	Hard of Hearing
ID	Intellectual Disabilities
LC	Leprosy Cured
SLD	Specific Learning Disabilities
DW	Dwarfism
MI	Mental Illness
AA	Acid Attack
PwD	Person with disabilities

