Training Module

Bakery and Pastry Production

বেকারি ও পেস্ট্রি প্রশিক্ষন মডিউল

সম্পাদনায় /Edited by:

Food Cadets Lipi's Euphoria

Institute of Hotel Management

সূচিপত্র

Competency Standards for National Skill Certificate – 3
in
Bakery and Pastry Production in Tourism and Hospitality Sector

Course Structure

SL	Unit Code and Title		UoC Level	Nominal Duration (Hours)
Generic Units of Competencies				**30**
1.	GU-08-L2-V1	Work in a Team Environment	2	15
2.	GU-15-L4-V1	Develop Entrepreneurship Skills	4	15
Sector Specific Units of Competencies				**30**
3.	SU-TH-01-L3-V1	Work in Tourism & Hospitality Industry	3	10
4.	SU-TH-04-L3-V1	Follow Food Safety, Hygiene and *HACCP* Management	3	20
Occupation Specific Units of Competencies				**300**
5.	OU-TH-BPP-01-L3-V1	Prepare and Produce Bread	3	70
6.	OU-TH-BPP-02-L3-V1	Prepare and Produce Pastry Dough	3	30
7.	OU-TH-BPP-03-L3-V1	Prepare Filling, Forming and Bake Pastry Product	3	70
8.	OU-TH-BPP-04-L3-V1	Prepare and Produce Cookies	3	60
9.	OU-TH-BPP-05-L3-V1	Prepare and Produce Cake	3	70
Total Nominal Learning Hours				**360**

এই লার্নিং গাইড টি কীভাবে ব্যবহার করবেন

(How to Use This Learning Guide)

এই মডিউলে প্রশিক্ষণ উপকরণ ও প্রশিক্ষণ কার্যক্রম সম্পর্কে বলা হয়েছে। এই কার্যক্রম গুলো আপনাকে সম্পন্ন করতে হবে। বেকিং অকুপেশনের অন্যতম ইউনিট গুলো হচ্ছে - হাইজিন, বেকিং টুলস ও ইকুইপমেন্ট, ফুড সেইফটি প্রসেডিওর, ব্রেড, কুকিস অন্যান্য বেকিং আইটেম তৈরি করা, পেস্ট্রি আইটেম তৈরি আর মূল্য নির্ধারণ করা । এই মডিউলের মাধ্যমে আপনি বেকিং এর মৌলিক পদ্ধতিগুলো ব্যবহার করে বিভিন্ন ধরনের খাবার তৈরি করার দক্ষতা অর্জন করতে পারবেন। একজন দক্ষ কর্মীর জন্য যে প্রয়োজনীয় জ্ঞান ও পজিটিভ আচরণ প্রয়োজন তা এই কোর্সে অন্তর্ভুক্ত রয়েছে। এই মডিউলে বর্ণিত শিখনফল অর্জনের জন্য আপনাকে ধারাবাহিকভাবে শিক্ষা কর্মকান্ড সম্পন্ন করতে হবে। এইসব কর্মকান্ড একটি নির্দিষ্ট শ্রেণীকক্ষে বা অন্যত্রও সম্পন্ন করা যেতে পারে। বর্ণিত শিখনফল তথা জ্ঞান ও দক্ষতা অর্জনের জন্য এসব কার্যক্রমের পাশাপাশি সংশ্লিষ্ট অনুশীলনও সম্পন্ন করতে হবে।

শিখন কার্যক্রমের ধারা জানার জন্য "শিখন কার্যক্রম" অংশটি অনুসরণ করুন। ধারাবাহিকভাবে জানার জন্য সূচিপত্রে, তথ্যপত্র, কার্যক্রম পত্র, শিখন কার্যক্রম, শিখনফল এবং উত্তরপত্রে পৃষ্ঠা নম্বর ব্যবহার করা হয়েছে। নির্দিষ্ট পাঠের সাথে সঠিক সহায়ক উপাদান সম্পর্কে জানার জন্যে শিখন কার্যক্রম অংশটি দেখতে হবে। এই শিখন কার্যক্রমে অংশগ্রহণ আপনার সক্ষমতা অর্জন অনুশীলনের রোডম্যাপ হিসাবে কাজ করবে।

তথ্যপত্রটি পড়ুন। এতে কাজ সম্পর্কে সঠিক ধারণা এবং সুনির্দিষ্টভাবে কাজ করার নির্দেশনা পাওয়া যাবে। 'তথ্যপত্রটি' পড়া শেষ করে 'সেলফ চেক শীট' এ উল্লেখিত প্রশ্নগুলোর উত্তর প্রদান করুন। শিখন গাইডের তথ্যপত্রটি অনুসরণ করে 'সেলফ চেক শিট' সমাপ্ত করুন। আপনি শিখন প্রক্রিয়ায় কতটুকু উন্নতি লাভ করেছে সেটি জানতে 'সেলফ চেক' আপনাকে সহযোগিতা করবে। 'সেলফ চেক' কতটা সঠিক হয়েছে তা জানার জন্য 'উত্তর পত্র' দেখুন। কার্যক্রম পত্রে নির্দেশিত উপায়ে যাবতীয় কার্য সম্পাদন করুন। এখানেই আপনি নতুন সক্ষমতা অর্জনের পথে আপনার নতুন জ্ঞান কাজে লাগাতে পারবেন। এই মডিউল অনুযায়ী কাজ করার সময় নিরাপত্তা বিষয়টি সম্পর্কে সচেতন থাকবেন। কোনো প্রশ্ন থাকলে ফ্যাসিলিটেটরকে প্রশ্ন করতে সংকোচ করবেন না।

এই শিখন গাইডে নির্দেশিত সকল কাজ শেষ করার পর অর্জিত সক্ষমতা মূল্যায়ন করা হবে যে, আপনি পরবর্তী মূল্যায়নের জন্য কতটুকু উপযুক্ত। প্রয়োজনীয় সব সক্ষমতা অর্জন হয়েছে কিনা তা জানার জন্য মডিউলের শেষে সক্ষমতা মান এর একটি চেকলিস্ট দেওয়া হয়েছে। এই তথ্যটি কেবলমাত্র আপনার নিজের জন্য। এটি কোনো দাপ্তরিক কাজে ব্যবহারের জন্য নয়।

মডিউলের বিষয়বস্তু

মডিউলের নামঃ বেকারি ও পেস্ট্রি প্রশিক্ষন মডিউল

মডিউলের বর্ণনাঃ

এই মডিউলে হাইজিন, বেকিং টুলস ও ইকুইপমেন্ট, ফুড সেইফটি প্রসেডিওর মেনে এবং বেকিং এর প্রাথমিক পদ্ধতিগুলো ব্যবহারের জন্য সরঞ্জাম, পাত্র এবং যন্ত্রপাতি প্রস্তুত করা; বেকিং এর মৌলিক পদ্ধতিগুলো ব্যবহার করে বিভিন্ন ধরনের খাবার তৈরি করার দক্ষতা অর্জন করা, বেকিং এর উপাদানসমূহ প্রস্তুত করা; বেকিং এলাকা, সরঞ্জাম, পাত্র এবং যন্ত্রপাতি পরিষ্কার ও রক্ষণাবেক্ষণ করার জন্য প্রয়োজনীয় জ্ঞান, দক্ষতা ও পজিটিভ দৃষ্টিভঙ্গি ইত্যাদি অন্তর্ভূক্ত করা হয়েছে। এই দক্ষতা আপনাকে হোটেল ইন্ডাষ্ট্রিতে একজন পেশাদার বেকার ও পেস্ট্রি শেফ হিসাবে কাজের উপযুক্ততা অর্জনে সাহায্য করবে।

নমিনাল সময়ঃ ৩৬০ ঘন্টা

শিখনফলঃ

এই মডিউলটি সম্পন্ন করার পর শিক্ষার্থীরা নিম্নোক্ত কাজগুলো করতে পারবেঃ

১. বেকিং এর জন্য সরঞ্জাম, পাত্র এবং যন্ত্রপাতি প্রস্তুত করতে পারবে;

২. আইটেম অনুযায়ী বেকিং এর উপাদানসমূহ প্রস্তুত করতে পারবে;

৩. হাইজিন মেনে বিভিন্ন আইটেম করতে পারবে;

৪. বেকিং এলাকা, উপাদান, তৈজসপত্র এবং সরঞ্জাম পরিষ্কার, স্যানিটাইজ ও সংরক্ষণ করতে পারবে;

অ্যাসেসমেন্ট ক্রাইটেরিয়াঃ

১.১ কর্মক্ষেত্রের প্রয়োজন অনুযায়ী ব্যক্তিগত সুরক্ষামূলক সরঞ্জাম (PPE) ব্যবহার করবে।

১.২ কাজের প্রয়োজনীয়তা অনুযায়ী সরঞ্জাম, পাত্র এবং যন্ত্রপাতি নির্বাচন করবে।

১.৩ কাজের প্রয়োজনের ভিত্তিতে সরঞ্জাম, পাত্র এবং যন্ত্রপাতিগুলো পরিষ্কার, স্যানিটাইজ এবং প্রস্তুত করবে।

১.৪ নির্ধারিত রেসিপি অনুযায়ী বেকিং এর উপাদানসমূহ ব্যবহারের জন্য নির্বাচন করবে।

১.৫ কর্মক্ষেত্রের প্রয়োজনীয়তা অনুযায়ী কর্মক্ষেত্রের নিরাপত্তা এবং স্বাস্থ্যকর পদ্ধতি অনুসরণ করবে।

১.৬ রেসিপির প্রয়োজন অনুযায়ী বেকিং এর পদ্ধতি প্রয়োগ করবে।

১.৭ স্পেসিফিকিশেন অনুযায়ী বেইক করবে।

১.৮ কাজের প্রয়োজন অনুযায়ী তাপ প্রয়োগ পদ্ধতি নির্বাচন করবে।

১.৯ তৈজপত্র এবং সরঞ্জাম পরিষ্কার এবং স্যানিটাইজ করবে।

১.১০ SOP (স্ট্যান্ডার্ড অপারেটিং প্রসিডিউর) অনুযায়ী কর্মক্ষেত্র পরিষ্কার এবং রক্ষণাবেক্ষণ করবে।

১.১১ সরঞ্জাম এবং যন্ত্রপাতি মনোনীত এলাকায় করবে।

পূর্ব শর্ত ঃ প্রযোজ্য নয়।

Learning Outcome (শিখন ফল): ১

১. বেকিং এর জন্য সরঞ্জাম, পাত্র এবং যন্ত্রপাতি প্রস্তুত করতে পারা

২. আইটেম অনুযায়ী বেকিং এর উপাদানসমূহ প্রস্তুত করতে পারা

৩. হাইজিন মেনে বিভিন্ন আইটেম বেইক **করতে পা**রা

৪. বেকিং এলাকা, উপাদান, তৈজসপত্র এবং সরঞ্জাম পরিষ্কার, স্যানিটাইজ ও সংরক্ষণ করতে পারা

Contents (বিষয়বস্তু):

১.১ কর্মক্ষেত্রের প্রয়োজন অনুযায়ী ব্যক্তিগত সুরক্ষামূলক সরঞ্জাম (PPE) ব্যবহার ।

১.২ কাজের প্রয়োজনীয়তা অনুযায়ী সরঞ্জাম, পাত্র এবং যন্ত্রপাতি নির্বাচন।

১.৩ কাজের প্রয়োজনের ভিত্তিতে তৈজসপাত্র ,সরঞ্জাম এবং যন্ত্রপাতিগুলো পরিষ্কার, স্যানিটাইজ এবং প্রস্তুত।

Assessment Criteria (মুল্যায়ন মানদন্ড):

১.১ কর্মক্ষেত্রের প্রয়োজন অনুযায়ী ব্যক্তিগত সুরক্ষামূলক সরঞ্জাম (PPE) ব্যবহার করবে।

১.২ কাজের প্রয়োজনীয়তা অনুযায়ী সরঞ্জাম, পাত্র এবং যন্ত্রপাতি নির্বাচন করবে।

১.৩ কাজের প্রয়োজনের ভিত্তিতে তৈজসপাত্র ,সরঞ্জাম এবং যন্ত্রপাতিগুলো পরিষ্কার, স্যানিটাইজ এবং প্রস্তুত করবে।

Condtions (শর্তাবলী):

কাজের সময় শিক্ষার্থীকে অবশ্যই সরবরাহ করতে হবেঃ

১. ব্যক্তিগত সুরক্ষামূলক সরঞ্জাম (PPE)

২. তৈজসপাত্র ,সরঞ্জাম এবং যন্ত্রপাতি

Learning Materials (শিক্ষা উপকরণ):

১. বই, ম্যানুয়াল

২. মডিউল / রেফারেন্স

Learning Activities (শিখন কার্যক্রম) - ১

Learning Activities (শিখন কার্যক্রম)	Resources / Special instructions (উৎস/বিশেষ নির্দেশ)
Learn about Hygiene procedure to maintain personal, environmental and other cleanliness Know, recognize and use various types of kitchen tools and equipment	• Read the Information Sheet-1 to learn about Hygiene, also read Information Sheet -2 to learn and recognize the tools and equipment needed for baking & pastry production • Answer Self-check -1 & 2 questions to justify own understanding • Check the answer sheet 1 & 2 and match own answers, may read the information sheet-1 again for clarification. • Exercise as per Job sheet 1 & 2 and repeat the process for better understanding and obtaining the right skill

Information Sheet-1

work in team environment

Working as a Team:

- Why work in teams? There are several good reasons:
- Research shows that we all learn effectively from each other. Hence, your teams should be learning teams, with the focus on helping each other to learn.
- Teams are much more effective than individuals for work on complex projects.
- *Why do some groups accomplish very little, while others achieve much more?*
- *This difference stems very much from the processes within the group - its inner dynamics or workings. The features of an effective team include:*
- *combined group effort of all members*
- *Clear goals*
- *Group members focused on learning*
- *Mutual trust and support*
- *Open communication*
- *Democratic processes.*
- Making the most of your team
- There are many advantages of working collaboratively with other students. To make the most of your experience as a team member, remember to:
- Become actively. Don't wait for another team member to do all the work.
- Share - open communication and the contribution of ideas and information is essential for successful and highly performing teams.

BENEFITS OF TEAM WORK:

- Effective teamwork has a number of benefits - to the organization, to the team and, not least, to the individuals within the team.
- The way that people work in teams is just as important as their individual performance.
  This includes their capacity not only to work within their own team but also to have good inter-team relationships.
- Working in such an environment helps build high staff morale and improved work performance.

Information Sheet-2

Develop Entrepreneurship Skills

Everyone possesses entrepreneurial skills, but most are unaware of those. You must recognize those skills and bring out the "entrepreneur" within yourself. Despite challenges, the experience of being an entrepreneur is enriching, professionally and personally. To help you achieve this feat, we have chalked down the top 10 entrepreneurial skills to help you become a successful entrepreneur or succeed in your business.

Entrepreneurial Skills:

Entrepreneurial skills are the skills and characteristics that enable people to create and run successful businesses. These skills are essential for anyone looking to start a business, as they help them identify opportunities, overcome challenges and make strategic decisions, but also for those who work for someone else. Also, the functions of entrepreneur include innovation, risk management, and value creation by addressing market needs with unique solutions.

Skills Every Entrepreneur Should Have:

Among the most important entrepreneurial skills we can highlight:

- Innovation
- Risk-Taking
- Adaptability
- Leadership
- Problem-Solving
- Business Vision
- Time Management
- Networking
- Financial Management
- Sales And Marketing

These skills allow you to identify opportunities, face challenges and make strategic decisions. They help entrepreneurs create and grow successful businesses by differentiating their offers, motivating their teams, and building strong relationships with customers, suppliers, and investors. But not only that. It will also be very useful for a manager who manages teams to have leadership and communication skills. We hope this article was helpful.

Information Sheet-3

Tourism & Hospitality Industry

Tourism and hospitality are thriving industries encompassing many sectors, including hotels, restaurants, travel, events, and entertainment. It's an exciting and dynamic area, constantly evolving and adapting to changing customer demands and trends.

THE KITCHEN BRIGADE

1. EXECUTIVE CHEF-the term **'**chef' literally means "the chief in French. Every kitchen has a chef or executive chef who responsible for the operations of the entire kitchen (A commonly misused term in English, not every cook is a chef). He is in charge of everything related to kitchen, including menu creation, staff management and business aspects. While the position requires extensive cooking experience and often involves actively cooking, it is not necessarily hands-on**.**

2. SOUS-CHEF-is the direct start of the executive chef and is second command. He or she may be responsible for scheduling, filling in for the executive chef when he is of duty. He or she will also fill in or assist the chef de partie (or line cooks) when needed. Smaller operations may not have a sous chef, while larger operations may have multiple.

3. CHEF DE PARTIE-also known as "station chef" or "line cook" and is in charge in a particular area of production.

4. COMMIS-an apprentice in large kitchens would work under a chef de partie or station chef in order to learn the station's responsibilities and operation.

5. GARDE MANGER- may also be referred as the pantry chef, they are responsible for preparing cold foods, including salads, cold appetizers, pates and other cold dishes.

6. CHEF POISSONNIER-responsible in preparing fish dishes and often does all fish butchering as well as appropriate sauce. This station maybe combined with the saucier position.

7. FRITURIER- is responsible for all fried items, position maybe combined with the rotisseur position.

8. CHEF TOURNANT- also referred as the swing cook, and fills in as needed on a station in kitchen.

9. ENTREMETIER CHEF- prepares hot appetizers and often prepares the soups vegetables, pastas and starches. In a full brigade system, a potager would prepare soups and a legumier would prepare vegetables.

10. GRILLARDIN CHEF- prepares all grilled foods, this position maybe combined with the rotisseur.

11. ROTISSEUR-prepares roasted and braised meats and their appropriate sauce.

12. PASTRY CHEF- prepare baked goods, pastries and desserts. The pastry chef often supervises a separate team in their own kitchen or separate shop in larger operations Some kitchens may have an executive pastry chef.

13. SAUCIER-responsible for all sautéed items and their sauces. This is usually the highest position of all the stations.

Information sheet-4

Hygiene

Hygiene is the procedure to maintain personal, environmental and other cleanliness. It is important in the food sector because we do not want to make people fall sick after consuming food.

Practices to personal hygiene are as follows:

- Have a shower before work.
- Wash hands using the standard procedure.
- Keep hair neat and clean.
- Keep mustaches and beards trimmed and clean. If allowed, be clean shaven.
- Hair must be clean, free from dandruff, odorless and glossy in appearance. Food attendants must wear hairnets or headbands or clips to prevent hair from falling.
- Maintain good fresh breath.
- When in Food Preparation areas, avoid wearing jewels on hands, wrists and ears.
- Fingernails must be trimmed and free of polish.
- Clean clothing must be worn at all times.
- Smoking and chewing gum while working should be avoided.
- Do not report for work when suffering from illnesses that may spread germs such as colds, cough or flu.
- Avoid spitting in any work area.
- Do not taste a food with a spoon and then returning the utensil to the food.
- Cover cuts and sores.
- Do not blow with the breath any bag to be use to wrap food.
- Do not wet your fingers to fasten separating sheets of wrapping paper
- Do not touch any part of the body while working with food. This includes the eyes, ear, nose and mouth.

Hand washing

In the food industry, hand washing is a very essential part of food safety. It entails correct and appropriate practice of this activity to avoid cross contamination. There are many instances where hand washing should be put into practice, some of them are enumerated here:

- After using the washroom
- After throwing out garbage or trash
- After handling any cleaning materials or chemicals
- After handling money and before handling food
- After touching food contact surfaces which may contain dirt
- In between handling raw high-risk food (meat, fish or chicken) and handling cooked or ready-to-eat food
- After smoking (use of tobacco products)
- After coughing or sneezing
- After blowing the nose
- After eating or drinking
- After touching the hair, scalp, mouth, nose, ears, body opening or any wound
- After taking a phone call when in food preparation areas

The steps of hand washing

Cleaning materials suitable for use in hand washing

Liquid soap (e.g. Dettol liquid soap, Savlon liquid soap)
Anti septic liquid (e.g. Savlon and Dettol)
Soap (e.g. Lifebuoy bar soap, Savlon bar soap)
Clean running water should be used to wash hands (e.g. clean tap water)
Hand sanitizer (Dettol)

- Rinse hands in running water
- Apply approved soap
- Scrub hands and fingers for at least 20 seconds
- Rinse soap and hands
- Dry hands

Work hygiene: 8 important hygiene rules for the kitchen

For non-coated kitchen surfaces, special attention should be paid to hygienic handling of food.
The cleanliness and hygiene of our work area in the kitchen depends primarily on our behavior. We advise the following eight tips when preparing and handling food.

1) Wash your hands before cooking

To prevent **bacteria** from spreading from the table or jumping over to your food, you should wash your hands before cooking. And if you want to work with other foods after preparing sensitive foods like meat or raw eggs, you should wash your hands again. This will help you prevent the transmission of things like salmonella.

2) Always rinse kitchen utensils thoroughly

When cooking, always use different cooking spoons or other utensils for raw ingredients and ingredients you're going to cook. This will prevent bacteria and **flavors** from unintentionally spreading to other dishes.

3) Pay attention to cleanliness and tidiness

Tidying up is the order of the day after cooking, roasting, and baking. This not only creates a pleasant atmosphere; it also makes it more difficult for food moths and other pests to move in.

4) Clean dishes and cutlery at high temperatures

To ensure that all items are free of bacteria, rinse at a **minimum of 60 degrees Celsius (140 degrees Fahrenheit)**.

5) Store raw and cooked food separately

Designate one **shelf in the refrigerator for cooked food**, and another for raw food. This will prevent bacteria like salmonella from passing from raw ingredients to cooked ones.

6) Note the cooling chain for frozen foods

Just a little defrosting can be enough to spoil frozen fish, so make sure that the **cold chain** isn't interrupted between purchase and storage in the freezer.

7) Always pay attention to the shelf life of food products

If the sell-by date for flour has expired, you don't have to worry; it's still edible. But for animal products, you should always take a look at the **best-before date**.

8) Keep pets out of the kitchen as much as possible

Hygiene rules should also apply to dogs and cats in the kitchen. They are carriers of diseases, which is why they shouldn't get too close to food and dishes – and **animal hair** in food isn't too appetizing, either.

Wear professional PPE:

The Tourism and Hospitality Sector requires different personal protective equipment (PPE) suited for the job. The PPE should be worn at all times to ensure safety. In some cases, the PPE or uniform promotes good representation of the workplace. Some of the PPE are given below:

1. **The Food handler's (Chefs) attire**

Self-check:

1. What is hygiene? Why is it important to maintain?

2. How many types of hygiene is there? Name of them.

3. What is the hand wash procedure?

What is HACCP?

HACCP (stands for Hazardous Analysis Critical Control Point) is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product.

HCCAP in pastry kitchen

In a simple explanation HACCP, which stands for Hazardous Analysis Critical Control Point, is a system that will enable you to consistently serve safe food by identifying and controlling possible hazards (biological, chemical, or physical) throughout the flow of food. Implementing a HACCP plan reduces the risks to consumers by controlling potential hazards that may be found in food. It also reduces the recall of any products that may have been contaminated due to processing or human error.

7 principles of HACCP in kitchen

These principles include

1. Hazard analysis,
2. CCP identification,
3. Establishing critical limits,
4. Monitoring procedures,
5. Corrective actions,
6. Verification procedures, and
7. Record-keeping and documentation.

➢ Tools & Equipment:

Manual Weighing Scale 	Used to accurately measure the required ingredients in making cake products
Digital Weighing Scale 	Digital weighing scales measure ingredients more accurately than manual weighing scale.
Measuring Jug 	Used to measure liquid ingredients required to make cake products, such as eggs, oil etc.
Measuring cups 	Use these to measure dry ingredients. Do not use these as scoop.
Measuring spoons 	These can be used either for dry or liquid ingredients in small quantities.

	This is to measure pastry, samosa, Momo etc. making quantities.
Mixing Machine 	This machine is used for mixing yeast dough, puff dough, cake batter, and biscuit dough. When making pastry dough a dough hook is used with mixing machine.
Wire Whisk 	Hand whisk is used for stirring pastry fills.
Gas stove 	Used for general cooking, heating and processing.
Electric deck oven 	This machine is used for baking bread, cake, pastry, biscuit etc.

Dough sheeter 	A dough sheeter is used to automate the rolling out the dough. A dough sheeter is used in industry where large quantities of dough are made.
Rolling pin 	A rolling pin is used to manually roll out the dough. Rolling pins can be made from wood, plastic or glass.
Sieve 	Sieve is used for aerating or sieving flour, corn flour, baking powder etc. it also helps remove any lumps for the flour.
Refrigerator 	Refrigerator is used for resting and cooling pastry dough for lamination.
Saucepan 	Sauce pan is used for cooking choux pastry.

Wooden spatula 	Wooden spatula is used for stirring choux pastry.
Stainless steel bowls 	Use these to contain, store or cure in process product. Do not put over fire or use for cooking.
Rubber spatula 	This is useful when scraping foods or sticky liquids from bowls for dissolving solid in liquids simple mixing etc. do not expose to heat or direct fire.

Flour

Flour is produced from cereals such as wheat barley, rye, oats, rice, peas, corn (maize) and we are used. The cereals are similar in their composition, but flours have different properties.

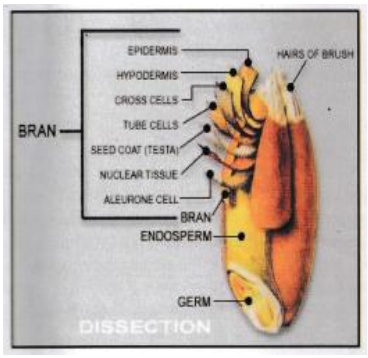
- Flour types used in bread making

- **Bread flour** is often referred to as "strong flour", it is so called because of its full gluten strength, obtained from milled wheat. Bread flour is used in making bread, puff pastry pizza crust recipes where the loftiness or chewiness required is produced by the extra gluten.
- **Whole wheat flour** is often called Graham flour, named after Sylvester Graham, the n American dietician. It is the result of milling the whole wheat kernel, except for the wheat germ. This type of flour is used to make brown bread, country bread, and country roll contains less gluten.
- **Barley** is used as malt and contributes to color and flavor as well as food for yeast in baking.
- **Oats** provide a distinct flavor and texture such as in Anzac biscuits. It is also using breakfast cereals. It has high fibred content and provides nutritional value.
- **Pea flour** is made from chick peas. It is also referred to as besan flour and has little u Western cooking. In Indian cooking it forms the base for batters used in the production savories such as pakoras.
- **Wheat** forms the most commonly used flour in baking and pastry cooking. The reason for this is that wheat contains more gluten-forming proteins than any other cue When water is added to flour, the proteins form an elastic, extensible substance c gluten. Gluten has remarkable properties: it stretches and expands to trap air or c dioxide. When heated above 60^0C, gluten will coagulate (set hard).
- **Rye flours** and rye meals provide much the same functions as wheat flour in b making. They provide structure for the dough during mixing, fermentation and proving also help to provide structure to retain the shape of the bread during baking. Rye pro is not as strong as wheat proteins so rye breads should not be over mixed.
- **Hard wheat flour:** This flour has a translucent endosperm and is very "flinty". Its use is in bread production
- **Enriched flour:** Someone, somewhere, decided that wheat flour had to be enriched for food of the general public. This is done by adding the following enriching ag thiamine, riboflavin, niacin, iron, calcium, and protein.
- **Patent flour:** Flour which has been highly refined. The quality may still differ from mill. The term "patent" refers to a patented piece of machinery in the milling process.
- **Gluten flour:** This is made from wheat by removing a large percentage of the star contains roughly 45% starch.

- The wheat grains

The individual grain or kernel has three distinct parts: the bran, germ (embryo) and endosperm. They are separated during the milling process.

The bran layer (14.5%) contains' vitamins, Protein, trace minerals, dietary insoluble fiber and enzymes. It is included in whole meal flour and can also be purchased separately.



The endosperm (83.0%) is the main source of white flour. It contains carbohydrates and the proteins glutei and gliding, the major group of B- vitamins and soluble fiber. The proteins glutei and gliadin produce gluten when they swell with liquid and provide the stickiness in flour.

The germ (2.5%) is the total grain. The germ contains a large proportion of diastolic enzymes, which convert starch into sugar. Germ is extremely rich in food value.

- Type of Flour based on starch and protein (gluten) content

Flour can be categorized into 3 different types:

Strong flour: Strong flour contains 70%-73% starch and 10%-15% gluten forming protein. It is used make sandwich bread, milk bread, raising bread French loaf and buns etc.

Medium flour: Medium flour contains 72%-75% starch and 8%-10% gluten forming protein. It is citable for making muffin, cookies, short bread etc.

Weak flour: Weak flour contains 73%-76% starch and 7%-10% gluten forming protein. Weak flour suitable to make cake, sponge cake and light biscuits.

Sugar

In 325 B.C. Alexander the great invaded India. One officer of his staff mentioned sugar-this is believed the first time its name appeared in history.

Since the dawn of history, man has required sugar in his daily diet. He originally obtained most of it directly from a variety of different fruits and through the decomposition of the starch in flour. Beets and sugar cane, however, contain sugar(sucrose) in large enough quantities to make its commercial extraction economically feasible,

Sugar is defined as a crystalline substance related to the carbohydrate family. It is responsible for approximately 15% of our caloric intake.

Sugar is used as a sweetener and tenderizer. Sugar lowers the caramelization point of the batter allowing the cake crust to color at lower temperatures. Sugar helps to retain the moisture remaining in the baked goods thereby keeping them moist for several days.

- Types of sugar for the industry

Granulated Sugar- This refined sugar is the most common sugar used both commercially and in the home. It comes in different crystal size. Regular granulated and berry sugar is the most frequently used in the industry. In the United States, bakers use very coarse seed sugar. This crystal can withstand baking temperatures and has a decorative impact on the product, as well as a positive influence on taste.

Brown and Yellow Sugar- These sugars contain a low percentage of molasses flavored syrup, which imparts a distinctive flavor to the products in which it is used.

Icing sugar- Icing sugar is basically the same as granulated sugar After the sugar has passed through the granulator or drier; it enters a grinding machine where the crystals are to powder. Cornstarch or some other absorbent base is added to this product in prevent lumps from forming during storage.

Cube sugar- There was a time when cube sugar was the most thoroughly refined sugar available. In fact, in some countries of Europe this still is hey are so. Although this is not terribly important when the sugar is only being used for sweetening coffee, it is for sugar artwork, where even a minute speck of dirt can cause a failure.
Today's cube sugar is simply granulated sugar which has been dampened with water and pressed into cube forms. After the cube has been de-molded, they are through a drier and then wrapped and packaged
Demerara Sugar- This is a very dark sugar, containing a high percentage of molasses and consisting of very coarse crystals. This type of sugar has limited use in baking.
Molasses- Only the molasses produced from sugar cane is fit for human consumption. Beet molasses is channeled in to cattle feed and yeast manufacturing. Molasses is available in different grade, and only the best should be used in baking.

Fats

Fats are used in baking to increase the tenderness of our products by reducing the toughness doughs and batters. They are collectively referred to as shortening agents' tenderizers.

Fats assist in carrying the air which is incorporated in the batter during mixing. Fat had tenderizing effect on the cake but it is its ability to carry the air that has more influence on the finished product. Fats also help retain moisture in the product.

- Kinds of Fats

There are different kinds of fats used in baking industry but for making cake the below mentioned fats are required, such as

1. **Butter-** Butter is made by churning ripened or soured cream. Cow's milk is the only natural base for butter. After the butter has been separated from the liquid (buttermilk), it is washed and wor4ked on a butter wheel, in order to make it more liable. Colorings are added to improve its appearance, and slat is added to act as a preservative. Butter contains between 1 1% and 12% water. This percentage is controlled by law.

Characteristics of good butter- The flavor of good butter must be sweet and nutty. There must not be any feel of oiliness. Salt is added as a preservative. However, if too much salt is present, the butter is useless to be baker. In such a case, the salt must be washed from the butter prior to use.

2. **Margarine-** When high-grade vegetable oils are treated with sourly skim milk and a special bacterial culture and then churned together, margarine is created. The bacterial culture is added for the simple purpose of imparting some butter flavor to the product. After the churning process, the fat is run through a series of rollers in order to give it the appearance of butter. Salt and colorings are added for the same reason. Additional salt will act as a preservative.

3. **Vegetable Fats –** These fats are obtained from a number of plants or nuts, such as pal, shear, coconut, cocoa bean, and peanut.

Creaming capabilities- For cake making it is essential the butter possess good creaming qualities and be capable of absorbing and holding large amounts of eggs other liquids.

Texture- When butter is put under pressure it must not crumble, but should feel firm and plastic.
Aroma- A strong aroma usually indicates that the butter is becoming too old. Fresh butter has milk, delicate aroma.

Milk And Milk Product

A- Milk:

01. General knowledge:

Milk is completed of water, calcium and albumen, milk protein "casein", milk sugar "Lactose" milk fat and vitamins.

In many countries, the milk sold has by law to be pasteurized, that is freed of any bacteria which could cause milk-borne disease.

Usually, the milk is heated to below boiling, held at this temperature for a few seconds, then cooled immediately.

02. Kinds of milk:

- **Pasteurized:** Milk is heated for 15 seconds at 72°C to kill harmful bacteria, followed by rapid cooling.
- **Sterilized:** This milk is bottled, sealed and heated to at least 100°C for 20-30 minutes.
- **Condensed:** Canned milk from which half of the water content has been removed and sugar added.
- **Powdered:** Milk from which most of the moisture has been removed. It is stored in powered form.
- **Evaporated:** Canned milk with a large percentage of its water removed. It is similar to condensed milk but because it has no sugar does not keep as well.

03. Uses of Milk

- Cold drinks - Milk, milk shakes.
- Hot drinks - Tea, coffee, chocolate
- Soups, sauces and cooking fish
- Making sweet dishes.

Yeast

❖ What is yeast?
Ans: Yeast is a non-flowering plant. Yeast cells are micro-organisms that cannot be seen with the naked eye. Yeast belongs to the family of fungi.

❖ How many kinds of yeast?
✓ Wild Yeast
✓ Fresh or Compact Yeast

❖ **Wild Yeast**
Wild Yeast occurs naturally on frit, where it appears in the form of bloom. It also occurs in the atmosphere. Wild yeast spores. Multiply much faster than the spores of cultivated yeast.

❖ **Fresh Yeast**
This is the yeast most frequently used in the baking industry. In its fresh state it is smooth and moist to the touch and has a pleasing aroma. It is easily soluble in water and milk. Fresh yeast contains 2/3 part of water per weight.

❖ **Dry yeast**
This is essentially the same as fresh yeast, except that the water has been evaporated from it. The resulting yeast granules are coated with an absorbent base, usually starch, to prevent caking dry yeast is a little more difficult to dissolve but functions as well as fresh yeast.

Functions of Yeast

The first and primary function of yeast is to change sugar into carbon dioxide gas(co_2). This gas will aerate the dough.

The second function is to assist in developing and mellowing the gluten. Mellowed gluten will help to retain the gases in the expanding dough during the baking cycle.

Eggs

Maybe in the form of: whole shell eggs, frozen and dried. Performs the following functions in baking:

- Gives structure to baked products
- Contributes to both volume and texture
- Incorporates air in tiny cells to aid in leavening
- Acts as shortening
- Impart a yellow color to doughs and batters

▪ **Leavening Agents**

This is the process of production or incorporation of gases in a baked product to increase volume and to produce shape and texture. Exact measurement of leavening agents is vital because small changes can produce major defects in baked products.

Yeast-is a microscopic plant available in three forms:

1. Fresh yeast — moist and perishable, also called compressed yeast
2. Active dry yeast — dry, granular form of yeast. Must be rehydrated before use
3. Instant dry yeast — also a dry granular form of yeast but does not have to be dissolved in water before use.

➢ Chemical lavenders
- ▪ Baking Soda
  - Chemically known as sodium bicarbonate
- ▪ Baking powder
  - Mixtures of baking soda plus an acid to react with it, thus more versatile in usage
- ▪ Baking Ammonia
  - Chemically known as ammonium carbonate
- ▪ Salt, Flavorings and Spices
  - Strengthens gluten structure and makes it more stretchable, improving the texture of breads
  - Inhibits yeast growth
  - Seasoning or flavor enhancer
- ▪ **Chocolate and Cocoa** - derived from cacao beans. Comes in many forms:
  - Cocoa — dry powder
  - Bitter or unsweetened chocolate — straight chocolate liquor

- Sweet chocolate — bitter chocolate added with sugar in varying amounts
- Milk chocolate — sweet chocolate added with milk solids, used primarily for candy making

- **Spices-** used in small quantities and should be measured by weight. The most common spices in baking are:
  - Cinnamon
  - Nutmeg
  - Mace
  - Cloves
  - Ginger
  - Caraway
  - Poppy seed

Prepare and Produce Bread

INFORMATION SHEET -5

Prepare Mix Bread Dough

- Bread

One could argue that the gathering of plants, their production into flour and the baking of products using this flour have made civilization possible. Bread still forms the staple diet of most people in the world and the smell of freshly baked bread tends to make our mouths water.

Bread is made of flour, water, and yeas or another leavening agent, mixed together and baked. Bread dough is usually formed into loaves It is the oldest, most common, convenient and cheapest form of food,

with a history dating back more than 10 000years. Flour and meal for bread have been made over the centuries with one or more kinds of cereals, as well as various grasses, roots or seeds.

- Categories of breads

In general, there are two main categories of bread: Leavened bread and unleavened bread

- Leavened bread

Leavened bread is made using yeast. Leavened breads are of two types:

1. **Soft bread:** Both crust and crumbs are soft e.g. white bread, raisin bread, cinnamon honey loaf, milk bread.
2. **Crusty bread:** Crust is hard but crumb is soft e.g. French bread, French roll, country bread, brown bread etc.

- Unleavened bread

There is no yeast or leavening agent in unleavened bread. Unleavened breads, such as, Chapatti, Roti, Parata.

Today the commercially baked leavened loaf is the most common form of bread in all countries except India and the Middle East and Bangladesh. In the wheat-growing areas of India, Pakistan and Bangladesh unleavened flat cakes, roti or chapattis are eaten traditionally. However, in the large cities increasingly they are being replaced by commercially baked bread.

- Ingredients used in bread making

The basic ingredients for bread made by modern processes are flour, salt, yeast, water and improvers. Optional ingredients include sugar, milk powder, fats, dry or wet gluten, eggs, dried fruits, cheese, spices and flavorings.

INFORMATION SHEET -6

Produce Bread Dough

- Types of Dough

There are mainly two types of dough.

- Leaven dough: The dough which is produced by yeast or any other leavening agent.
- Un-leaven dough: The dough which is produced without any leavening agent.

- Yeast dough (leaven dough)

Yeast dough is a mixture of flour, salt, yeast, water, milk powder, sugar, egg and fat to produce bread & pastry.

On the basis of richness, dough is mainly two types:

- Lean dough — Less fat and less sugar
- Rich dough — More fat and more sugar

- Method

There are 2 main methods of producing dough:

Straight dough Sponge dough

- Straight dough

In the straight dough process, all ingredients are mixed together at the same time; yeast may or may not be dissolved prior to mixing.

- Sponge dough

SELF-CHECK

1. The type of dough which is produced by yeast or any other leavening agent
2. How is yeast dough produced?
3. What is the difference between a lean dough and rich dough?
4. In this method of producing dough, all ingredients are mixed together at the same time, yeast may or may not be dissolved prior to mixing.
5. What is the risk if during mixing yeast sponge, you have coated the yeast cells with fat or fatty materials?

True or False. Write T if the statement is correct, otherwise, write F.

1. One of the important changes that can take place in dough during baking coagulation of proteins and gelatinization of starches.
2. It is also during baking that the yeast is killed right during baking and gets active again when the temperature inside the dough reaches 140°F (60°C)
3. In the initial stages of baking, the products are very soft during-the initial stages and should not be touched as this may cause their collapse.
4. The granules in the starch begin to swell at 54°C, because of a transfer of moisture from other materials in the product. Eventually the granules will incorporate into the gluten network.
5. The greatest pressures are exerted in the final stages of baking.
6. Too little salt, too much yeast, too much dough scaled and over proofing will result in too much volume of baked bread.
7. Gray crumb of bread is caused by either too long or too short fermentation time.
8. Poor bakeshop sanitation has an effect on the finished products.

200 gm Pizza

Raw Materials	Quantity
Flour	100 gm
Yeast	2 gm
Sugar	5 gm
Salt	2 gm
Olive oil/ Soyabean oil	10 gm
Water	70 ml
Tomato sauce	As require
Oregano	
Black olive	
Mozzarella Cheese	
Capsicum	
Turmeric	
Onion	
Salt	
Chili paste	

Method of preparation

I. Collect and measure all ingredients as per recipe. Set mixing machine and speed.
II. Mix all ingredients into the mixing bowl.
III. Place the dough in the fermentation cabinet for 30 minutes to ferment at temperature 35°C and 92% humidity.
IV. After fermentation place the dough on the working table:
V. Roll out the dough.
VI. Put up pizza filling on the dough. To make the topping place the drained tomatoes sauce, Capsicum, tomato, Onion, Mozzarella cheese, Black olive, Oregano etc.
VII. Spread the grated cheese. Proofing time at 10 to 15 min.
VIII. After proofing remove the baking tray carefully from proofing cabinet and place in the preheated oven at 180°C.
IX. Bake for 10-15 minutes.
X. Out from the oven and brush with butter oil.

Prepare and procedure Pastry

INFORMATION SHEET -7

Prepare Ingredients and Equipment

- **What is pastry?**

Pastry is a kind of butter product, which can be served as snacks or dessert The pastry does not contain a lot of sugar so it is suitable for producing sweet or savory types of pastries

- Kinds of Pastries

There are many types of pastry, such as, Puff, Danish, Choux, Short crust, Pie crust ete Puff and Danish pastry are the most commonly used in Bangladesh.

- Puff Pastry

Puff pastry is laminated dough that contains hundreds of thin layers of butter and pastry dough, which puffs up into a light, crispy pastry once it bakes in the oven. Puff pastry is made by wrapping a block of butter in very simple dough, rolling it out, folding it over and repeating the rolling and folding process for several turns of the dough, increasing the overall number of layers with every fold.

Figure 3. Puff Pastry

Puff pastry is a light, flaky and tender pastry made by mixing flour, water and salt into a dough and adding layers of fat. It is used to make pies, pasties, vol au vents, savories and desserts. There are many ways of making puff pastry. The aim is to produce a paste with many alternating layers of dough and fat which rise and form a layered pastry when baked. Specialist bakers and pastry cooks have their own way of making puff pastry. They use different proportions of butter and flour, and differ in the way they incorporate the butter and the number and type of folds they make to the pastry.

- Danish pastry

Danish pastry is a sweet pastry which has become a specialty of Denmark and neighboring Scandinavian countries and is popular throughout the industrialized world, although the form it takes can differ significantly from country to country.

Figure 4. Fruit Danish

Danish pastry is similar to puff pastry; however, it contains yeast. It is yeast dough which is rolled out thinly, coated with butter, and then folded into numerous layers.

Figure 5. Cheese Danish

Croissants

Croissants are thought to have originated in Austria. In 1683 when the Turks were secretly digging tunnels under Vienna to make a surprise attack on the city, they were heard by the bakers working early in the morning. The bakers who raised the alarm and saving Vienna from being defeated by the Turks then baked a special commemorative roll in the shape of the crescent on the Turkish flag. Marie Antoinette, a French princess, introduced the roll to France where it became known as the croissant, the French word for crescent.

Figure 6. Croissant

Over the years the croissant developed into the product we know today. Because croissants are time-consuming and expensive to produce by hand, they were not widely eaten. Recently new technologies have been developed that allow less expensive, efficient, mass production of this delicious cereal product.

Croissants are form of Danish pastry but it contains less sugar. Nowadays fillings. They any time of the day and can be filled with all sorts of delicious savory or sweet fillings. They may also be pre-filled with delicious fillings such as chocolate, fruit or almond paste.

- Short crust Pastry

Short crust, or short pastry is the simplest and most common pastry. It is made with flour, fat, salt, and water. The process of making pastry includes mixing of the fat and flour, adding water, and rolling out the paste. The fat is mixed with the flour first, generally by rubbing with fingers or a pastry blender, which inhibits gluten formation and results in a soft, tender pastry. A related type is the sweetened sweet crust pastry. It is a versatile pastry as it can be used for both savory and sweet dishes,

Apple-Pie

Quiche Lorraine

Figure 7. Short crust pastry

- Choux pastry

Choux is a French specialty used for cream buns, chocolates éclairs and profiteroles. The method of preparation of choux pastry is completely different from other pastries. The butter, milk and water are melted in a saucepan and then heated rapidly so that it bubbles. As is it removed from the heat, the flour and salt are shot in and stirred to combine. It should be shiny and come away from the sides easily. It's important not to over beat it as the fat will separate. When the pastry is cooled, the beaten eggs are added gradually. It will look shiny and be able to hold its own weight. It is then transferred to a piping bag with nozzle and piped onto a greased baking tray remembering that the pastry will treble in size whilst cooking. It is a very light pastry that is often filled with cream. The pastry is filled with various flavors of cream and is often topped with chocolate. Choux pastries can also be filled with ingredients such as cheese, tuna, or chicken to be used as appetizers.

Figure 7. Choux pastry

SELF-CHECK

1. Write the name of 3 different kinds of flours.
2. What is gluten? Why it is important for pastry dough?
3. What are the kinds of fat used in the pastry making?
4. How you prepare ingredients for Danish pastry dough?
5. List the main equipment required in making pastry dough?

INFORMATION SHEET -8

Block and Laminate Pastry as Required

- What does block and laminate pastry mean?

Block and laminate pastry refer to the rolling and folding of a paste so that a laminated structured is obtained, one layer on top of another. Puff pastry is a perfect example of lamination where the fat and paste layer provide expansion. Danish pastry is another example. With lamination the rolling out or pinning of the paste and folding it to establish the layers is referred to as "giving turns" to the paste.

- Puff Pastry

Puff Pastry is known as a „layered pastry. Layering is also described as laminating. The principle behind the pastry is to create many layers of dough and butter by folding and turning the two together. In every layer of dough is a layer of butter of equal thickness. Thus, the butter is folded into layers of dough.

The number of layers in puff pastry is calculated with the equation:

Where I am the number of finished layers, f the number of folds, and in the number of times the dough has been folded.

$$I = (f + 1)^n$$

Example: twice-folding (i.e. in three) for four times gives (2 + 1) D 81 layers.

The process of making puff pastry can be laborious and quite time-consuming as the pastry needs to be rested between folds in order to allow gluten strands time to link up and thus retain layering. Puff pastry should also be kept cool during the dough making phase, ideally at a temperature of approximately 16 ^{o}C (60 ^{O}F) to avoid the shortening (butter) from becoming runny.

When making puff pastry it is crucial that the butter does not melt while the pastry is worked. Therefore, you must work as quickly as possible and on as cold a surface as possible (particularly if your kitchen is hot). Often professional pastry chefs use a refrigerated marble slab to roll out the pastry. This keeps the pastry cool as a general rule when rolling the dough out as a minim you use two single and two double turns. To create an evenly layered pastry, it is important that you always roll it to the same thickness and that the edges are kept, straight and even (this takes some practice so be patient!)

Bake Pastry Products

- Baking

Baking is the cooking of food by dry radiant heat in an oven in which the action of the dry heat is modified by steam. This steam arises from the water content of the food being baked. Almost all bakery products are cooked by this method and considerable numbers of sweet and pastry dishes are either baked or else part cooked on stone and finished in the oven.

- Setting: times and (temperatures controls other oven tor baking pastry

Setting times and temperatures are very important for baking. It varies from product to product. You need to be very careful and clear about setting times and temperatures. You need to make sure that oven is preheated before baking. Preheat again depends on the products you are going to bake.

- Times and temperatures for puff pastry

Ideally it takes 25-30 minutes on 180 ^{0}C temperature for baking puff pastry. However,

it depends on the size an s ape o t e product. small pastries should be baked around 220^{0}C, whereas larger pastries should be backed around 200 ^{0}C.

- Times and temperature for Danish pastry

Ideally, it takes 15-20 minutes on 180 ^{0}c temperature for baking Danish pastry. However, it depends on t e size and shape o t e products.

- Washes and glazes applied before baking

Egg/milk washes and glazes are applied before baking to get the brown color.

- Positioning products on tray

It is very important to place the pastry products on lightly oiled greased tray before baking.

- Positioning pastry products on slips and. belt with correct spacing

After positioning the pastry products on tray, the tray should be placed on the slips and the belt will move towards oven. It is very important to keep sufficient space between trays.

- Weight

The final product may differ in weight. Generally, the weight of the final product is

Small pastry: 35 gm

Medium pastry: 50-52

Large pastry: 70-75 gm

- Appearance Puff pastry

The appearance of puff pastry is and light. It has many layers.

- Danish pasty

The appearance of Danish pastry is tender and light.

- Color

The pastry (Puff and Danish) becomes brown when it is baked.

- Pastry product texture and softness

The outer portion of baked pastry product is dry and crispy. However, the inner portion is smooth and moist.

SELF-CHECK

Write TRUE before the statement if it is true; write FALSE if the statement is false.

1. Yeast is used in puff pastry.
2. Pastry products become hard when baked,
3. Ideally, it takes 45 minutes on 180 °C temperature for baking puff pastry
4. Pastry becomes brown when it is baked.
5. Pastry gets many layers when it is baked.
6. Small pastries should be baked around 250°
7. Generally, the weight of the final pastry product is 35-75 grams.

Apple pie

Raw Materials	Quantity
Sweet Paste	
Flour	90 gm
Corn flour	10 gm
Butter	50 gm
Icing sugar	25 gm
Egg	15 gm
Vanilla essence	As require
Apple filling	
Apple	250 gm
Sugar	70 gm
Raisin	30 gm
Butter	20 gm
Mix Fruit jam	As require
Cinnamon powder	As require
Corn flour	10 gm
Egg brush	As require

Method of Preparation

I. Put on PPE and wash hand.
II. Beat or mix butter and Icing sugar add egg slowly beat until creamy texture.
III. Add vanilla essence.
IV. Mix flour and corn flour with butter cream make a sweet paste, do not over mix.
V. Warp the dough with poly bag and put it in the refrigerator for 30 minutes.
VI. Prepare the apple filling. First of all, peel the apple and wash. Slice the apple.
VII. Place the pan with apple, sugar, raisin, butter, mix fruit jam and cook.
VIII. Add corn flour adjust the thickness.
IX. Add cinnamon powder then remove from the gas burner after cool.
X. Take out the dough from refrigerator, roll out the dough to a thickness of 2mm.
XI. Put up dough on the mold.
XII. Put in apple filling.
XIII. Decorate with strip dough and egg brush on the top of the pie.
XIV. Place in the preheated oven at 170°C bake for 25-30 min.
XV. Clean up equipment & work area and store appropriately.

INFORMATION SHEET-9

BISCUITS AND COOKIES

The name biscuit comes from the French word ***bis,*** which means twice and ***cuit*** which means baked. It is a sweet or savory dry flat cake with a high calorie content (420-510 / 100 gm) The raw materials used for biscuit manufacture is flour, sweeteners, shortening, milk, leavening agents and other miscellaneous products.

Cookies were at one time referred to as small cakes or sweet biscuits. The Dutch have provided bakers and confectioners with the word ***kocke*** which means small cake. The Americans began to use the word cookie, whereas the English continue to use the word biscuit for the same product. There are more varieties of cookies than any other baked product because there are so many different shapes, sizes, textures and flavors that are possible.

- CLASSIFICATION OF COOKIES/BISCUITS

Cookies can be formed by dropping, rolling, cutting out, moulding and pressing. Cookies are usually classified according to the way in which the dough is shaped:

1. bars and squares
2. drop cookies
3. rolled cookies
4. pressed cookies
5. moulded or shaped cookies
6. refrigerator cookies
7. bag cookies (piped)

Bar and drop cookies are made with soft dough that has a comparatively high percentage of liquid. The other varieties call for a stiff dough, usually less sweet and often higher in fat content than soft dough.

- MIXING METHODS

Cookie mixing methods are similar to cake mixing methods. Major difference is that less liquid is incorporated, therefore less gluten. The methods of mixing are:

a. One stage
b. Creaming
c. Sponge

One Stage method: All the ingredients are mixed at once. Here the baker has less control over the mixing**.**

Creaming method: This is identical to the creaming method for cakes. The amount of creaming affects the texture of the cookies, the leavening and the spread, hence only a small amount of creaming is desirable.

Sponge method: This is similar to the egg foam method for cakes. The only batter is delicate. precaution that one has to take is to keep the batches small because the

- MAKE UP METHODS

Because their mixing is simple, it is better to classify cookies and biscuits according to their make-up.

Bagged: also called Pressed cookies. Are made from soft dough. The dough must be soft enough to be forced through a pastry (piping) bag, but stiff enough to hold its shape. E.g.: Butter Buttons

Dropped: these cookies are made from a soft dough. In this method, the batter is deposited on a sheet for baking with a spoon or a scoop. When the dough contains pieces of nuts, dried fruits or chocolate bits or chips, this method is used. Also, when you want the cookie to have a rough homemade look. E.g.: peanut macaroons.

Rolled: Cookies are rolled and then cut with cutters. Bakeshops and 5-star operations do not make these types of cookies because of the labor involved. Also, after cutting the scraps, these are re rolled, making tough and inferior cookies. The only advantage is that you can make different shapes and sizes. E.g.: Tricolor biscuits

Moulded: In this method, each piece of dough is moulded into the desired shape. This usually involves flattening the piece out with a weight. (stamp the design) e.g.: Shrewsbury Biscuits (from Kayani, Pune).

Icebox: Also called refrigerated cookies. This method is ideal for operations that wish to have freshly baked cookies on hand at all times. Rolls of dough are made in advance and kept in the fridge. They are then cut and baked as needed. This method is also used to make multi colored cookies in various designs. E.g.: chequered and pinwheel.

Bar: Here the dough is baked in long narrow strips which are then cut cross wise into bars.

Sheet: This make up is like the sheet cakes…. only denser and richer.

No matter what method is used, one important rule to follow is – the cookie should have a uniform size and thickness. This is essential for even baking. If the cookies are to be garnished, they must be done immediately on panning. Press them gently when still fresh. If you wait, the surface dries up.

Salt Cookies

Raw Materials	Quantity
Flour	70 gm
Butter	50 gm
Icing sugar	15 gm
Salt	2.5 gm
Baking powder	2 gm
Nigella seed	10 gm

Method of preparation

I. Best or mix Butter and Icing sugar until creamy texture.
II. Mix flour, Salt, Baking powder, Nigella seed with butter cream, do not over mix.
III. Wrap the dough with poly bag and put it in the refrigerator for 30 minutes.
IV. Prepare working table for rolling out the dough. Spread 50 gm flour on the working table.
V. Take out the dough from refrigerator, Roll out the dough to a thickness of 2mm. makeup cookies with cooky cutter.

VI. Place all the ready round shaped raw biscuits on the tray.
VII. Preheat the oven.
VIII. Bake Biscuit at 170°C for 15 to 20 mins.
IX. Take out the biscuits from the oven and cool the Biscuits.
X. Clean up equipment & work area and store appropriately.

INFORMATION SHEET -10

Prepare Ingredients and Equipment

- Cake

Cake is defined as a baked sweet food usually made from flour, fat, sugar, eggs other ingredients. It is a form of bread or bread-like food considered as a sweet baked dessert. Cakes are commonly considered as the dessert of choice for meals at and ceremonies such as weddings, birthdays and anniversaries.

The manufacture of cakes requires a lot of attention to detail throughout the whole process. Regardless of the type of process required to make cakes, it is important that it is done methodically and correctly, otherwise detrimental results may occur. Even the oiling and greasing of pans can be critical since if it is done incorrectly Joss of the product can occur.

Small tasks, such as whipping eggs have to be carried out with the utmost care because as little as one tenth of one percent egg yolk in the egg whites will affect the whipping quality.

Correct balance of ingredients in the recipe is essential and for the purpose of balance, batter type cakes can be divided in to two main groups:

a) **Low ratio-** those having less sugar than flour-for example, flour 100 parts, sugar not more than 98 parts.
b) **High ratio-** those having more sugar than flour- for example, 100 parts sugar 1 10 to 180 parts.

Butter Cake

Sponge Cake

Produce Cake Batter

- Cake Batter

It is a mixture of all the raw materials/ingredients such as, butter, caster sugar, eggs, flour, corn flour, milk powder, baking powder and flavors. It is a soft mixture required for making cake. There are two types of cake batter

1. Heavy batter used to make plane cake, fruit cake, marble cake, rich fruit cake, plum cake etc.
2. Sponge batter used to make vanilla sponge cake, lemon sponge cake, chocolate sponge cake, mocha cake, strawberry cake etc.

- Cake Mixture

The term cakes refer to a sweet baked food made of flour, liquid, eggs, and other ingredients, such as raising agents and flavorings. The cakes that we will look at are traditional cakes served for morning and afternoon tea, specialty cakes such as a wedding cake and gateau and tortes used for high quality patisserie.

The mixture used for cakes generally use baker's flour for structure. In the case of health food items whole meal flour may be used. Part of the flour can be replaced with other items such as nuts, coconut or other cereals such as semolina but sufficient structure within the cake must be ensured. Butter should be sued for superior products but cake margarine is a cheaper alternative. Cake mixtures use mechanical aeration and the fat needs to be beaten sufficiently to incorporate air.

Caster sugar is best for optimum aeration and creaming of the fat. It can be replaced in parts (up to 50%) with honey. It also provides flavor, tenderizes the product and adds curst color as well as enhancing the shelf life. To emulsify cake mixtures fresh eggs will provide the best end result as the protein in the egg will coagulate and provide additional structure.

INFORMATION SHEET-11

Produce Cake Fill

- Fillings

Fillings are used for cake, pastries or smaller bite-size items, chocolate hollows and truffles. They can also be used for garnish for example small truffles of ganache or coated marzipan. They can also be used as icings. Cake fill is a kind of thickened substance used to fill different types of cakes. It is sweet.

- Butter creams

Butter cream icings are light, smooth mixtures of fat and sugar. They may also contain eggs to increase their smoothness of lightness. These popular icings for many kinds of cakes are easily flavored and colored to suit a variety of purposes.

There are many variations of butter cream formulas. We cover five basic kinds in this chapter:

1. **Simple butter creams** are made by creaming together fat and confectioners' sugar to the desired consistency and lightness. A small quantity of egg whites, yolks, or whole eggs may be whipped in. Pasteurized eggs should be used for safety. Some formulas also include non-fat milk solids.
   Decorator's butter cream (sometimes called rose paste) is used for making flowers and other cake decorations. It is creamed only a little, at low speed, as too much air beaten into it would make it unable to hold delicate shapes. Because shortening has a higher melting point than butter, it is often used as the only fat in decorator's butter cream to give maximum stability to the finished decor. However, a little butter may be included to improve the flavor when possible.

2. **Meringue**-type butter creams are a mixture of butter and meringue. These are very light icings the most frequently made of these kinds of butter creams is Italian butter cream, made with Italian meringue. Swiss meringue can also be used as the base for butter cream.
3. **French butter creams** are prepared by beating boiling syrup into beaten egg yolks and whipping to light foam. Soft butter is then whipped in. These are very rich, light icings.
4. **Pastry cream**-type butter cream, in its simplest form, is made by mixing together equal parts thick pastry cream and softened butter. If more sweetness is desired, mix in sifted confectioners' sugar. The recipe included in this chapter (Vanilla Cream) contains a lower proportion of butter than usual. To give it the necessary body, a little gelatin is added.
5. **Fondant-type butter cream** is simple to make with only a few ingredients on hand. Simply cream together equal parts fondant and butter. Flavor as desired.

Butter, especially unsalted butter, is the preferred fat for butter creams because its flavor and melt-in-the-mouth quality. Icings made with shortening only can be -unpleasant because the fat congeals and coats the inside of the mouth, where it does not melt. However, butter makes a less stable icing because it melts so easily. There are two ways around this problem:

- Use butter creams only in cool weather.
- Blend a small quantity of emulsifier shortening with the butter to stabilize it.

Butter creams may be stored, covered, in the refrigerator for several days. Howe ever, they should always be used at room temperature in order to have the right consistency. Before using, move butter cream from the refrigerator at least 1 hour ahead of time and let it come to room temperature. If it must be warmed quickly, or if it Curdles, war it gently over warms water and beat it well until smooth. **Flavoring butter creams** Because butter creams may be combined with many flavorings, they are versatile and adaptable to many kinds of cakes and desserts.

The quantities given in the following variations are suggested amounts for each pound (500) g butter cream. In practice, flavorings may be increased or decreased to taste, but avoid flavoring icings too strongly.

Unless the instructions say otherwise, simply blend the flavoring into the butter cream.

i. **Chocolate.** Use 3 ounces (90 g) sweet dark chocolate.
   Melt chocolate and cool slightly (chocolate must not be too cool or it will solidify before completely blending with the butter cream). Blend with about one quarter of the butter cream, then blend this mixture into the rest.
   If your butter cream base is very sweet, use 1 ^{1}2 ounces (45 g) unsweetened chocolate instead of the sweet chocolate.
ii. **Coffee.** Use ^{2}3 fluid ounces (20 mL) coffee compound (coffee flavoring), or 1 12 tablespoon (5 g) instant coffee dissolved in ounce (15 mL) water.
iii. **Marron (chestnut).** Use 8 ounces (250 g) chestnut purée.
   Blend with a little of the butter cream until soft and smooth, then blend this mixture into the remaining butter cream. Flavor with a little rum or brandy, if desired.
iv. **Praline.** Use 2 to 3 ounces (60 to 90 g) praline paste.
Blend with a little of the butter cream until soft and smooth, then blend this mixture into the remaining butter cream.
v. **Almond.** Use 6 ounces (180 g) almond paste.
   Soften almond paste with a few drops of water. Blend in a little of the butter cream until soft and smooth, then blend this mixture into the remaining butter cream.
vi. **Extracts and emulsions** (orange, lemon, etc.). Add according to taste.
vii. **Spirits and liqueurs.** Add according to taste. For example: kirsch, orange liqueur, rum, brandy.

➢ Recipe for preparing butter cream:

- ✓ Butter 600 gm
- ✓ Icing sugar 300 gm
- ✓ Cold water 50-100 ml
- ✓ Vanilla essence few drops

- Procedure

1. Using the paddle attachment, cream together the butter and sugar until well blended.
2. Add the vanilla. Blend in at medium speed. Then mix at high speed until light and fluffy.
3. For a softer butter cream, blend in the water.

- Pastry Cream

Pastry cream is a kind of fill in which some ingredients have to be cooked first and then the other ingredients have to be mixed as follows: **Pastry Cream fill - 600 gm**

Recipe

1. Water	300 ml
Sugar	100 g
2. Water	100 ml
Corn Flour	30 g
Milk Powder	100 g
Egg	1 pc
3. Vanilla Essence	few drop
Butter	50 g

- Method of preparation

1. Boil group 1 ingredients (sugar and water) together in a sauce pan up to bubble stage.
2. Mix well group 2 ingredients and pour into the mixture of step 1 and cook until thick.
3. Then remove from the gas burner and add vanilla essence and butter.
4. When cold, use for cake or pastry.

- Chocolate cream

This fill is made by mixing butter cream and pastry cream along with melted chocolate or cocoa powder.

Recipe

Butter cream	300 gm
Pastry cream	300 gm
Melted chocolate or	100 gm
Cocoa powder	as required

- Method of preparation

1. Mix all the ingredients in a mixing bowl and whip well with the whisk.

Storage of Cake fill

Cake fill must be stored and handed carefully so that harmful bacteria do not affect it. Whilst prepared cake fill is not required immediately, it must be covered and kept chilled.

SELF-CHECK

1. What is a cake filling?
2. What are the different types of cake filings? Explain.
3. What is the importance of proper storage of cake fillings?

INFORMATION SHEET-12

Decorate Cakes

- Decorating cakes

Much of the appeal of cakes is due to their appearance. Cakes are a perfect medium in which a baker can express artistry and imagination.

A cake need not be elaborate or complex to be pleasing. Certainly, a simple but neatly finished cake is better than a gaudy, over decorated cake that is done carelessly or without any plan for a harmonious overall design.

There are, of course, many styles of cake decorating, and within each style, hundreds or thousands of designs are possible. This chapter is. In part, an introduction to basic techniques for finishing cakes. The most important requirement for making effective desserts is hours and hours of practice with the pastry bag and paper cone— the decorator's chief tools. Even the simplest designs (such as straight lines) require a lot of practice. Only when you have mastered them should you proceed to the more advanced techniques presented in style manuals and cake decorating books.

A cake must be assembled and iced before it can be decorated. In this chapter, we begin with a study of icings, including recipes for many variations. Then we discuss the procedures for assembling basic layer cakes, sheet cakes, and other simple products.

- ICINGS

Icings, also called frostings, are sweet coatings for cakes and other baked goods. Icings have three main functions:

- They contribute flavour and richness.
- They improve appearance.
- They improve keeping qualities by forming protective coatings around the cakes.

There are eight basic types of icings and other cake coatings:

- Fondant
- Butter creams
- Foam-type icings
- Flat-type icings
- Royal or decorator's icing Glazes
- Rolled coatings

Use top quality flavorings for icings so they enhance the cake rather than detract from it. Use moderation when adding flavors and colors. Flavors should be light and delicate. Colors should be delicate pastel shades—except chocolate, of course.

Queen Cake

Raw Materials	Quantity
Butter	100 gm
Sugar	100 gm
Egg	100 gm
Flour	90 gm
Corn flour	10 gm
Vanilla essence	Ltd
Milk powder	5 gm
Baking powder	Ltd
Sugar syrup	
Water	50 ml
Sugar	1 Tea spoon
Butter	½ Tea spoon

Method of Preparation

I. Put on PPE and wash hand.
II. Place a mixing bowl with the butter and sugar.
III. Beat or mix butter and sugar when cream add egg slowly.
IV. Add vanilla essence.
V. Mix flour, corn flour, baking powder and milk powder. Mix it until creamy.
VI. Pour into a cupcake mold.
VII. Place in the preheated oven at 160°C bake for 15-20 min or until well risen and golden color.
VIII. Spread sugar syrup when after baking.

Cleaning procedure

- Clean equipment with water and liquid dish washing
- Clean work area using broom
- Mob floor with water and cleaning agent (example: savlon)
- Clean sink with brush, cleaning agent (vim bar) and water

Cleaning agent

- Water (Hot & Cold)
- Vim bar/ powder,
- Liquid dish washing
- Glass cleaning liquid

Cleaning apparatus

- Dish cleaning brush
- White Cloth or Paper Duster
- Steel Wool
- Dish washing sponge
- Water (Hot & Cold)
- Floor cleaning liquid
- Disinfected liquid
- Floor Broom
- Scrubbing Machine
- Floor Mop
- Floor Brush
- Floor Wiper
- Bucket

Frequency	Section	Procedure
At least daily	Carrying Tables	Wash with soap and water.
	Waste Trap	Remove rubber waste trap, with hot soap and water. Dry thoroughly and re lace.
	Waste Bin	Check that it is emptied after each meal period.
	Floor	Brush floor with dry stiff broom. Mop with hot water and detergent solution. Clean all corners, behind doors, under table sorts and under machine.
	Dish Racks	Scrub with stiff hand brush: rinse in hot water.
	Pastry Oven	Brush out oven with a stiff brush. Wipe the exterior with a damp cloth. Dry well.
	Mixing Machine	Wash all external parts with detergent solution: rinse and wipe dry. Cleaning all mixing blades, beaters, whisks etc., and dry thorough

	Scales	Brush off all flour and food particles from the scales. Wipe with a damp cloth. Dry thoroughly. Wash in detergent. Dry well.
	Pie Machine	Brush machine with dry stiff brush. Wipe over with damp cloth and dry well. Scrub and clean the dishes and dry thoroughly
	Cooling Racks	Brush racks with a dry stiff brush.
	Flour Bin	Brush surplus flour on to flour. Check that the bin-lid is in place.
	Store Cupboard	Tidy store cupboard, see that all foodstuffs are in proper containers and that there are no split bags, etc.
	Work Tables	Scrub tables with proper solution and dry well.
	Splash-Board	Wash both sides with detergent solution and dry.
	Sinks	Scrub with scouring powder. Clean any deposit from waste trap and remove any dirt or grease from around taps. Clean draining boards with detergent solution. Mop dry.
	Floor	Brush floor with dry stiff broom. Mop with hot detergent solution, cleaning all corners etc.
	Utensils	See that all clean utensils are in place.
	Racks	Wash racks down with hot detergent solution.
	Stacking Racks	Wipe all bars with wet, clean cloth. Dry well.
weekly	Pastry Oven	Clean all baked food deposits from the interior of oven with a metal scraper. Check on gas taps and see that gas etc. are clean.
	Mixing Machine	Remove top, check there is sufficient grease in working parts.
	Walls	Wipe walls with a soapy sponge to hand height.

SELF-CHECK

1. Why is it important to clean equipment and production area after baking pastry products?
2. How do you clean refrigerators and freezers? How often should you do it?
3. Which equipment/production area should you clean weekly?

দক্ষতা পর্যালোচনা

প্রশিক্ষণার্থীর জন্য নির্দেশনা: প্রশিক্ষণার্থী নিম্মোক্ত দক্ষতা প্রমাণ করতে সক্ষম হলে নিজেই কর্মদক্ষতা মূল্যায়ণ করবে এবং সক্ষম হলে হ্যাঁ বোধক ঘরে টিক চিহ্ন দিবে।		
কর্মদক্ষতা মূল্যায়নের মানদন্ড	হ্যাঁ	না
কাজের প্রয়োজন অনুযায়ী ব্যক্তিগত সুরক্ষামূলক সরঞ্জাম (PPE) সংগ্রহ ও পরিধান		
কাজের প্রয়োজনীয়তা অনুযায়ী সরঞ্জাম, পাত্র এবং যন্ত্রপাতি নির্বাচন		
কাজের প্রয়োজনের ভিত্তিতে সরঞ্জাম, পাত্র এবং যন্ত্রপাতিগুলো পরিষ্কার, স্যানিটাইজ এবং প্রস্তুত		
নির্ধারিত রেসিপি অনুযায়ী রান্নার উপাদানসমূহ ব্যবহারের জন্য নির্বাচন		
কর্মক্ষেত্রের প্রয়োজনীয়তা অনুযায়ী কর্মক্ষেত্রের নিরাপত্তা এবং স্বাস্থ্যকর পদ্ধতি অনুসরণ		
রেসিপির প্রয়োজন অনুযায়ী রান্নার পদ্ধতি প্রয়োগ		
স্পেসিফিকিশেন অনুযায়ী রান্নার জন্য তাপ প্রয়োগ পদ্ধতি নির্বাচন		
রেসিপির প্রয়োজন অনুযায়ী রান্নার পদ্ধতি প্রয়োগ		
রান্না করা খাদ্য সংরক্ষণের নীতি ও পদ্ধতি অনুসরণ করে রাখবে/সংরক্ষণ		
সরঞ্জাম এবং যন্ত্রপাতি পরিষ্কার এবং স্যানিটাইজ		
SOP (স্ট্যান্ডার্ড অপারেটিং প্রসিডিউর) অনুযায়ী কর্মক্ষেত্র পরিষ্কার এবং রক্ষণাবেক্ষণ		
সরঞ্জাম এবং যন্ত্রপাতি মনোনীত এলাকায় সংরক্ষণ		

References

https://www.initial.com/sg/business-sectors/hospitality-hygiene

https://safetylineloneworker.com/blog/workplace-hazards-for-hospitality-hotel-workers#:~:text=Respiratory%3A%20Exposure%20to%20chemical%20cleaning,hazards%20can%20cause%20occupational%20stress.

https://www.highspeedtraining.co.uk/hub/what-are-the-7-principles-of-haccp/

https://www.foodnetwork.com/recipes/packages/baking-guide/baking-tools-and-equipment-guide

https://sallysbakingaddiction.com/homemade-artisan-bread/

https://www.marthastewart.com/1542305/storing-baked-goods-home

https://sallysbakingaddiction.com/vanilla-cake/

https://www.allrecipes.com/recipe/159432/puff-pastry/

https://glimmr.co.uk/10-home-cleaning-materials-you-need/

https://duplexcleaning.com.au/commercial-cleaning-equipment/list-of-cleaning-equipment/