

Bakery & Confectionery



NATIONAL INSTITUTE OF OPEN SCHOOLING
A-24-25, INSTITUTIONAL AREA, SECTOR-62, NOIDA-201309 (UP)

SENIOR SECONDARY COURSE

Bakery and Confectionery

Course Designer

Sandhya Kumar

Tutor for Home Science



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NATIONAL INSTITUTE OF OPEN SCHOOLING

A-24-25, Institutional Area, Sector-62, NOIDA-201309 (U.P.)

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Bakery and Confectionery : An Introduction

The other day my son came crying to me saying that "Anshu's mother had baked a cake for him". He wanted to know why I, too, could not make a cake for him.

This plea from my little son set me thinking that perhaps, like me, there may be other mothers who would like to learn how to bake delicious things. And that set me off on another track — who made all those lovely cakes and pastries displayed so attractively in the shops? Perhaps people like you and me who have had some training and have a lot of imagination and creativity.

So, here is a course in which you will learn the basic baking procedures, the various kinds of ingredients used in baking, the equipment required, etc. You will also learn the basics of managing a small bakery in case you want to set up your own unit. The primary objective of developing this course is to impart a skill to you which could either help you to take up a job in a bakery or set up a bakery or simply delight family members with a constant supply of delicious products.

You will realise when you start working on the recipes, that baking is a science as well as an art. It is a science because one has to be very precise in measuring and mixing the raw ingredients and baking at the correct temperature. The art lies in making the products look as attractive as possible. So, go ahead. Learn the science and give your imagination a free hand and turn out lovely and delicious products from breads and buns to cakes and biscuits!

Happy baking!



Sandhya Kumar
Course Designer

FUNDAMENTAL DUTIES

Part IVA (Article 51 A)

It shall be the duty of every citizen of India-

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forest, lake, rivers and wild life, and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that nation constantly rises to higher levels of endeavour and achievement.

A brief Guide to NIOS web site

The success of open learning and distance education very much depends upon the harnessing of the new and latest technology. The emerging Internet and Web technology help in effective dissemination of knowledge breaking all geographical boundaries. The web-site is a dynamic source of latest information and is also electronic information guide. The contents in the NIOS web site are open to all.

The learners can have an access to NIOS web-site at the following address:

<http://www.nos.org> & nios.ac.in

Clicking the site address will bring the user to NIOS home page that will further guide them to visit different information pages of NIOS. NIOS is also developing a school network through Internet known as Indian Open Schooling Network (IOSN). The network will provide a common communication platform for learners and educators. NIOS is offering Certificate in Computer Applications (CCA) through selected AVI. This course is also offered through Internet on NIOS Web-Site.

NOT FOR SALE

INGREDIENTS AND EQUIPMENTS

1.1 INTRODUCTION

Baking is no different from any other area of cooking, and as in other sectors only the best and the freshest raw material can guarantee good results. So selection of right kind of ingredients is of utmost importance.

Another basic need of a professional baker and confectioner is to purchase the equipment required. The design and size depends upon the volume of sale expected. So in this chapter we are going to learn about the ingredients and equipment required for running a bakery.

1.2 OBJECTIVES

After reading this lesson, you will able to :

- list the ingredients used in bakery;
- select the right quality;
- classify ingredients into perishables, semi-perishables and non-perishables;
- list the various equipments used in bakery;
- suggest suitable methods of storage for different types of ingredients used in bakery;
- select the equipment on the basis of capacity and power;
- maintain the equipment for proper functioning and longer life;
- list suppliers for the equipment.

1.3 WHAT DO YOU BAKE WITH?

You all know that a lot of things like fat, eggs, flour and sugar are used to prepare cakes and biscuits. But what are the other things apart from these? Let us now make a comprehensive list of ingredients commonly used in a bakery.

1. Flour

- a) Wholemeal or whole wheat flour
- b) Brown flour
- c) White flour

- d) Self raising flour
 - e) Strong flour
 - f) Soft flour
 - 2. Yeast
 - a) Fresh
 - b) Dry
 - 3. Chemical Raising Agents
 - a) Baking powder
 - b) Ammonium bicarbonate
 - c) Baking Soda
 - 4. Salt
 - 5. Comflour
 - 6. Milk
 - a) Liquid milk
 - } full fat
 - } low fat
 - } skimmed
 - b) Milk powder
 - c) Condensed milk
 - 7. Cream
 - 8. Shortening agents
 - a) Butter
 - b) Margarine
 - c) Hydrogenated fat/Vanaspati
 - d) Refined oil
 - 9. Egg
 - 10. Sugar
 - 11.

a) Grain Sugar	f) Treacle
b) Castor Sugar	g) Liquid Glucose
c) Icing Sugar	h) Milk Sugar
d) Brown Sugar	i) Malt Sugar
e) Gold Syrup	j) Honey
 - 12. Coco and Covering chocolate
 - 13. Coconut
 - 14. Coffee
 - 15. Nuts
-

- a) Almonds
- b) Cashewnuts
- c) Walnuts
- d) Peanuts
- e) Pistachio nuts
- 16. meat and poultry products
- 17. Fresh fruits and vegetables
- 18. Candied fruits
 - a) Lemon and Orange Peel
 - b) Tutti Fruity
- 19. Tinned/Canned fruits
 - a) Cherries
 - b) Pineapple
 - c) Peaches
 - d) Mango
 - e) Banana
 - f) Fruit Cocktail (mixed)
- 20. Spices and Aromatics
 - a) Chamaejasme
 - b) Cardamom - big and small
 - c) Cummin Seed
 - d) Poppy Seeds
 - e) Nutmeg
 - f) Mace
 - g) Coriander Seeds
 - h) Black pepper
 - i) Red chilli powder
 - j) Cloves
 - k) Cinnamon
 - l) Onion seeds
 - m) Sesame seeds
 - n) Mixed spices
 - o) Aniseed
 - p) Ginger
 - q) Garlic
 - r) Saffron
- 21. Alcohol
 - a) Wines
 - b) Rum
 - c) Brandy - Cognac
 - d) Liqueur
- 22. Food Colours
- 23. Essences
 - a) Vanilla
 - b) Strawberry
 - c) Orange
 - d) Pineapple
 - e) Lemon

1.4 SELECTION, STORAGE AND USE

The above ingredients can be classified into three categories depending upon their keeping quality, shelf life and the storage temperatures required.

- a) **Non-perishable** - Items that can be stored for more than a

month at room temperature, e.g. flour, sugar, salt, spices, cocoa and coffee powders, colours and essences, canned products. They just require proper circulation of air in the storage area and protection from rodents and pests.

- b) **Perishable** - Items that can be stored for a couple of days at the most, at proper temperature, e.g. milk, cream, fresh fruits and vegetables, poultry and meat products.
- c) **Semi-perishable** - are those items which do not come under any of the first two categories, i.e. they require proper storage temperature. But the period of storage is more than that for perishables, e.g. butter and other fats, chocolates, tins/cans after opening, eggs. etc.

Let us learn something more about the ingredients above.

1. FLOUR

Flour is the most important ingredient without which production in a bakery or confectionery unit would be impossible. It is obtained by milling wheat. A wide variety of flour is available in the shops. Choosing the right one for the type of baking you are doing will ensure the best possible results. Here is a guide to help you choose.

To understand flour properly you must know something about wheat grain and its internal structure.

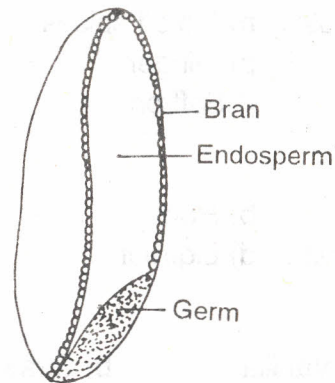


Fig. : A wheat grain revealed

During milling both bran and germ are removed. Bran has sharp edges which tend to cut the cell structure of loaf during proving, thereby affecting the volume of bread. Germ has more oil which affects the keeping quality of flour.

Table 1 : Different types of flour and its uses

Whole Meal or Whole Wheat Flour	Brown Flour	White Flour	Self raising	Strong Flour	Weak Flour
1) Contains all parts of wheat grain, i.e. Bran, Endosperm	1) Coarser part of bran is removed	1) Most of the bran & germ is removed & contains mainly endosperm.	1) This flour has higher protein content due to the wheat variety used or due to milling method employed.	1) This flour has higher protein content due to the wheat variety milling used or due to method employed.	1) Contains higher proportion of starch & less protein.
2) Wholemeal flour is 'Atta' used for making chapatis and can be bought from provision stores.	2) Can be purchased from speciality food stores.	2) It is 'Maida' and can be bought from provision stores.	2) Available in speciality food stores.	2) Available in speciality food stores.	2) Available in speciality food stores.
3) Used for making brown bread..	3) Used for brown breads.	3) Used for breads, buns, cakes, biscuits, depending upon their protein content.	3) Used for cakes and pastries.	3) Used for breads, buns, patties.	3) Suitable for cakes and biscuits.

INTEXT QUESTIONS 1.1

- Fill in the blanks:
 - whole meal flour consists of, and
 - Brown flour is used for making
 - The various types of milk used in bakery are, and
- Classify the following raw materials into perishable, semi-perishable.

A. Egg	B. Milk
C. Condensed milk	D. Oil
E. Cream	F. Butter

G. Orange Peel
I. Yeas (fresh)
K. Golden Syrup
M. Corn flour
O. Canned cherries
Q. Rum

H. Fresh Vegetables
J. Brown flour
L. Butter
N. Cashew nuts
P. Cocoa powder

2. YEAST

Yeast is a unicellular micro-organism of plant origin. The biological name is *saccharomyces cerevisiae*. Under right conditions the yeast increases by division and it is this process which makes yeast useful for baking. It needs air, moisture, warmth and nourishment (in the form of sugar) to multiply and produce carbondioxide to raise the dough. Yeast is available both in the fresh as well as the dried form. Let us study how they are different from each other.

FRESH YEAST	DRIED YEAST
1. Available from bakers and speciality food stores	1. Available from food and provision stores.
2. Sold in ½ kg packs wrapped in butter paper.	2. Sold in small sachets.
3. It is pale beige in colour, firm but crumbly in texture and has a pleasant, fruity smell.	3. Available in granule form, colour is little darker than fresh yeast.
4. Should be stored in a refrigerator loosely wrapped in a cling firm, can be kept for a couple of weeks. But it can be frozen for several months.	4. Until the packet is sealed it can be stored in any well ventilated, cool cupboard for a few months. But after opening the packet this yeast should be used within a month.
5. Gives better products	5. Quantity used should be half as compared to fresh yeast as this is more concentrated.

3. CHEMICAL RAISING AGENTS

- a) **Baking Powder** - is a mixture of sodium bi-carbonate, cream of tatar (tartaric acid) and a separator, usually rice or potato or corn starch. Under the combined effect of air, moisture and warmth, carbon dioxide is produced from sodium bicarbonate which again causes fermentation. The separator prevents the two other ingredients from working prematurely by working as an insulator. The acid present neutralizes the left over soda so that no after taste is left in the product.
- b) **Ammonium bicarbonate** - This also gives off carbon dioxide on receiving moisture, air and warmth but along with that ammonia gas is also produced which is pungent in flavour and if left in the product, gives a off taste.
- c) **Baking Soda** — This is used frequently in commercial baking as it costs less. It contains sodium-bicarbonate which breaks into sodium carbonate, carbon dioxide and water. However residue of sodium carbonate leaves a bad taste and a dark colour which makes it not very suitable for most products except darker coloured chocolate cakes.

4. SALT

Chemical name of salt is sodium chloride. It contains 40% sodium and 60% chlorine. It is readily available in almost all parts of the world and is indispensable to cooking.

Used by the bakers, it confers flavour and also accentuates other flavours. It has a stabilizing effect on gluten and controls the speed of fermentation in yeast aerated goods. It also helps on retaining moisture.

5. CORNFLOUR

Chiefly produced from maize. It is white in colour and mainly contains starch which gelatinizes by mixing with water at a temperature above 170°F. Thus it is used as a thickening agent in custards and other confectionery items. It can also be used to dilute the strength of flour by mixing in suitable proportions.

6. MILK

It is a moistening agent and contains about 87% water. It is also an enriching agent depending on the amount used or whether it full fat, low fat or skimmed.

Dried milk powder is very popular in baking because it occupies less

space, keeps well if correctly stored, can be easily reconstituted or can be sieved with flour and used in dry form. Condensed milk is produced by evaporation of water under vacuum. It is generally sweetened.

7. CREAM

It is used in cakes, desserts and for decoration and makes the dish special. It is the skimmed milk fat and has a pleasant flavour. The creams vary in thickness and richness. The higher the butter-fat content the less likely cream is to fall after whipping.

Fresh milk and cream both need to be stored in the refrigerator and cannot be stored for more than a few days.

Different types of shortening agents

Butter	Margarine	Vanaspati Ghee	Refined oil
1. Made by churning milk fat.	1. It is a cheaper butter substitute made from hydrogenated oils.	1. Made by hydrogenating vegetable oils.	1. Consists of 100% fats with low melting point.
2. Contains about 85% fat and rest is water and milk protein.	2. Controls hydrogenated oils, ripened milk, colour and salt.	2. Contains mainly fats.	2. A liquid at room temperature it cannot be used for creaming.
3. Has a pleasant aroma and good for bakery due to this.	3. Has no aroma but rest of the physical characteristics similar to butter.	3. Has grainy texture and no aroma. Due to the grainy texture less suitable for baked goods.	3. Mainly used for frying and tin greasing.
4. Butter should be firm and it should not be stored at a temperature below 40°F.	4. Can be stored at room temperature.	4. Can be stored at room temperature.	4. Can be stored at room temperature.

9. EGGS

After flour, eggs are the second structure forming materials used by the baker. Both, egg white and yellow are of great importance. Egg white whisks easily and makes cakes and pudding lighter. During baking it solidifies to lock in the air. Egg yolk emulsifies well and is used as a glaze and also in ice-creams and cream desserts.

An average egg weighs around 45-50 g. A fresh egg sinks in water whereas a stale one floats. The yolk of the egg should be firm. Egg can be stored in the refrigerator for a week or two.

10. SUGAR

- a) **Grain Sugar** : This is the sugar we use normally at home. It contains 99% water soluble carbohydrates and 1% water.
- b) **Castor Sugar** : is a finer form of granulated sugar and is suitable for creaming in baking.
- c) **Icing Sugar** : It is a very finely powdered white sugar which is used for icing, glazes, dusting cakes after baking and for almond paste.
- d) **Brown Sugar** : These are the un-refined raw sugars, some having names that refer to country of origin, e.g. Barbados, Demerara, etc. All brown sugars confer colour and some flavour. These sugars are ideal for rich cakes.
- e) **Golden Syrup** : This amber coloured syrup is a by-product of sugar refining. It is used by the baker for ginger cakes and biscuits.
- f) **Honey** : It is a thick natural syrup obtained by bees from the nectar of flowers. It is used in fresh ginger breads, nuggets etc.
- g) **Treacle** : It is a syrup much darker in colour and with a more pronounced flavour than golden syrup. It is made by diluting and filtering molasses and then concentrating. Treacle can be used for ginger goods, dark heavily fruited cakes and christmas pudding. The treacle replaces some of the sugar in the mixture.
- h) **Liquid Glucose/Corn syrup** : It is made by boiling starch in water so that it is gelatinized. A weak acid is added to the gel to get sugar. It is used in cakes and biscuits and in sugar boiling.
- i) **Milk Sugar** : Milk sugar or lactose is obtained from fresh and skimmed milk. It is used to impart additional flavour and sweetness.
- j) **Malt Sugar** : Malt sugar or maltose is obtained from milk syrup and adds sweetness.

11. COCA AND CHOCOLATE

Both are obtained from cocoa beans. Cocoa powder is low fat and has no sugar whereas chocolate has some sugar, cocoa, butter and milk added in varying quantities. Both cocoa powder and chocolate are used considerably in confectionery products.

Cocoa powder can be stored in air tight containers in well ventilated places for months. Chocolate should be wrapped in polythene paper or aluminium foil and then refrigerated.

12. COFFEE

Coffee is an excellent flavouring for creams, fillings and icings.

13. NUTS AND DRIED FRUITS

These are of great importance in cakes, pastries and puddings. Walnut, pistachio nut, groundnut or peanut, cashewnuts, coconut and almonds, raisins, sultanas and currants are more frequently used.

14. MEAT AND POULTRY PRODUCTS

These are used as fillings for savoury items like patties, vol-au-vent, pizza, barquettes etc. They should always be fresh and of good quality. These need to be refrigerated, if stored for a couple of days.

15. FRESH FRUITS AND VEGETABLE

Fresh fruits and vegetables form an integral part of any bakery. They should be fresh when used.

16. CANDIED FRUIT

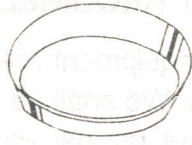
Orange and Lemon peel and tutti-frutti are used both in cakes and breads. They should always be washed, dried and chopped before using.

INTEXT QUESTIONS 1.2

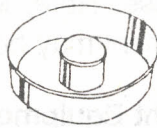
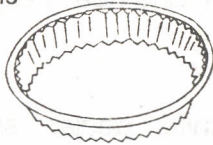
1. Tick mark (✓) the appropriate answers
 1. Fresh/Dry yeast gives better products.
 2. Baking powder/baking soda is more suitable for chocolate cakes.
 3. A fresh/stale egg floats on water.
 4. Castor/Brown sugar is unrefined raw sugar.
 5. Cocoa powder/chocolate is low in fat and sugar.
 2. Fill in the blanks.
 1. Dried milk powder is popular in bakery industry because it can be used in
 2. The colour of the yeast tells us whether it is fresh or
 3. Salt gives to the products.
 4. Cornflour is generally used as aagent in confectionery.
 5. Eggs form theof the baked products.
 6.is the finest form of sugar and is used forandcakes.
-



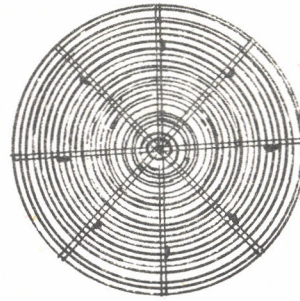
flan tins



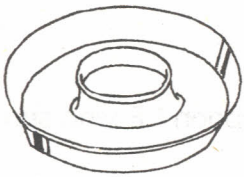
cake tin



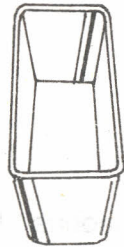
Savarin mould



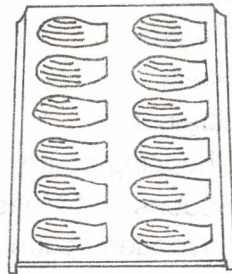
wire cooling tray



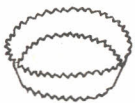
baba mould



loaf tin



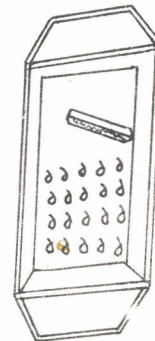
madeleines tray



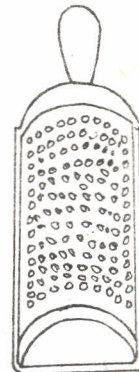
tartlet tins



piping bag and nozzles



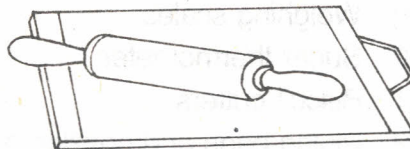
graters



whisks



spatula



rolling pin and board



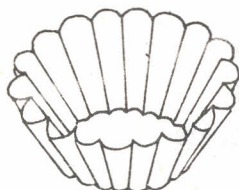
ice cream scoop



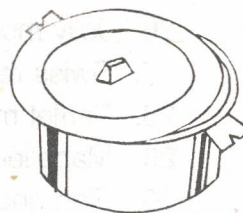
pastry wheel



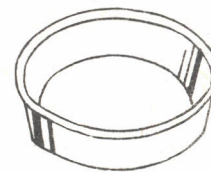
nutcrackers



brioche mould



charlotte mould



terrine

1.5 EQUIPMENT REQUIRED IN A BAKERY

Various types of equipment are needed and used to facilitate the process of baking. We shall be describing them later as we talk of their use. Here, let us just list them. Depending upon the use, equipment may be as light equipment and heavy equipment.

(i) Light Equipment

1. Knives - * pelliante knife * sharp knife * peeler * scraper/spatula
 2. Scissors
 3. Grater
 4. Sieve
 5. Strainer
 6. Chopping board
 7. Spoons — * Measuring spoons * Round spoon * Frying spoon
* Wooden spoon
 8. Rolling pin
 9. Whisks * Hand operated/balloon whisk * Electrical whisk
 10. Measuring jug/flask
 11. Enamel bowls of different sizes
 12. Degchi
 13. Saucepan
 14. Karahi
 15. Turntable
 16. Cake dummies
 17. Lemon squeezer
 18. Pastry brush
 19. Weighing scales
 20. Sugar thermometer
 21. Biscuit cutters
 22. Piping bags and nozzles of different shapes
 23. Cooling rack
 24. Steel thalis/trays
 25. Cake tins of various sizes and shapes
 26. Jelly mould
 27. Swiss roll tray
 28. Tartlet moulds
 29. Madeliene moulds
 30. Flan rings
 31. Bread moulds/tins
 32. Baking trays
-

33. Muffin trays
34. Savarin moulds

(ii) Heavy Equipment

1. Oven
 - gas oven
 - coal oven/bhatti
 - electric oven
2. Proving chamber
3. Refrigerator
4. Dough mixer
5. Deep freezer
6. Work tables
7. Storage cabinet
8. Gas burners

1.6 SELECTION AND MAINTENANCE REQUIRED

1. Oven

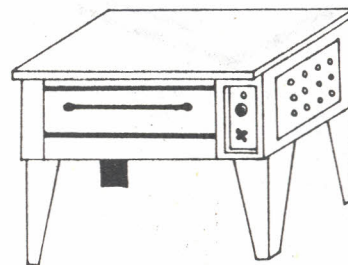
This may be heated by coal, gas, oil or electricity. The source of heat does not matter as far as the baking products are concerned. What matters is that heat should be equally distributed and the required temperature should be available for baking.

Depending upon the volume of baking, you can buy a single deck oven or a double or three deck oven. Oven can also have a proving chamber attached to it. Electric oven has a thermostat which makes temperature regulation easier and it should be possible to control top and bottom heating control top and bottom heating control from separate knobs. In other ovens exact temperature regulation is not possible so rely more on experience for checking of temperature.

Oven should be kept clean to prevent any spillage from becoming caked. Periodic checking by the electrician should be done. Ovens should be used 10-15 cm from ground to permit easy cleaning.

2. Proving chambers

These are cabinets with temperature and humidity control. These are used for keeping just fermented goods like bread, rolls, buns, etc., during the fermentation period so that ideal conditions can be provided for fermentation. They can be separate chambers or can be attached to the ovens. These are a must for good bakers. These



SINGLE DECK BAKING OVEN

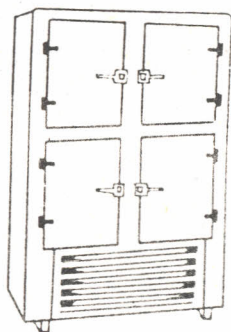
should be kept clean. Water should be removed and replaced after cleaning every few days.

3. Refrigerator

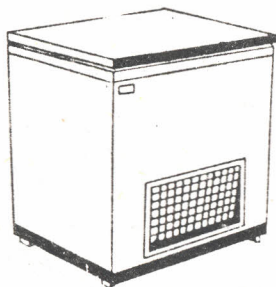
The capacity varies from 100 litres to 380 litres. The choice of a refrigerator, its overall size and the size of the frozen food storage compartment depends on the

- a) Size of the bakery
- b) Expected volume of sale
- c) Availability of other cold storage means.

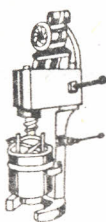
It is wise to choose a larger model as per the requirement because need keeps on increasing with time. A refrigerator should be defrosted weekly. Spills should be mopped up at once and the cabinet should be washed occasionally with soda bicarbonate or detergent and water.



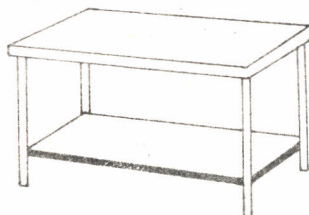
FOUR DOOR REFRIGERATOR



DEEP FREEZER/ICE CREAM CABINET/BOTTLE COOLER



Dough Mixer



WORK TABLE WITH BOTTOM SHELF

4. Deep Freezers

The capacity varies from 140 ltrs to 380 ltrs. It can be of three types:

- a) The chest type with top opening lid
- b) The upright type with front opening
- c) A combination type with both openings

Freezers should be defrosted at least once a month. Wash the insides with soda bicarbonate and water and dry before switching it on. Most freezers and refrigerators work for years unimpaired but the telephone number and address of the service agency should be kept handy.

5. Dough Mixer

It is generally made to order but available capacities vary from 25 kg. to 35 kg. Most commercial modules are heavy and should be fitted on sturdy rollers for easy movement. The stainless steel bowl and beater should be washed and cleaned after every use and the machine should be serviced regularly.

6. Work Tables

Steel preparation tables last for years. The table top could also be made from marble which is smooth, easy to keep clean and remains cool. There should be no unwanted cracks or joints and the design should be simple. Tables with open sides and without drawers are the best as dirt does not accumulate.

Work table should be maintained scrupulously clean as they can cause cross contamination. They should be scrubbed with plastic brush and detergent and washed and dried.

7. Storage Cabinets

These should be good sized food cupboards to store provisions and smaller equipments, some of them should have air-vents for proper ventilation.

These can be built-in types or made of metal-free standing style. But all cabinets should be kept clean and free from pests.

8. Grass Burners

One low pressure gas burner with a simple and easy to clean design is a must in a bakery. Preference should be given to stainless steel instead of enamelled metal.

Gas ranges should be periodically serviced to check on burners efficiency and they should be kept clean and free from obstruction.

INTEXT QUESTION 1.3

1. What is the difference between cocoa powder and chocolate?
 2. How would you check the freshness of an egg?
 3. Why is baking powder used more frequently as compared to baking soda and Ammonia bicarbonate?
 4. Tick mark (✓) the right answers.
 - a) The most important point to be considered while buying an oven is
 - i) The source of heat
 - ii) Distribution of heat in the cabinet
 - iii) The number of heating elements
 - b) Proving chamber is required for making
 - i) Cakes
 - ii) Biscuits
 - iii) Breads and buns
 - c) Work table tops in a bakery should be made of
 - i) Wood
 - ii) Plastic
 - iii) Marble
-

- d) The gas burner required in a small bakery should be
- High pressure
 - Low pressure
 - Adequate

1.7 ANSWERS TO INTEXT QUESTIONS

- 1.1 1. (i) Bran, germ and endosperm
(ii) Brown bread
(iii) Liquid milk, milk powder, condensed milk
2. A—P G—NP M—SP
B—P H—P N—SN
C—SP I—P O—SP
D—P J—SP P—NP
E—SP N—NP Q—NP
- 1.2 1. 1. Fresh 2. Baking powder 3. Stale
4. Brown 5. Cocoa powder
2. 1 dry 2. dried 3. flavour
4. thickening 5. structure 6. Icing sugar,
icing, dusting.
3. 1. Refer text
2. By putting in a bowl of water — it is fresh if it sinks
and stale if it floats.
3. Refer text
4. (a) (ii) (b) (iii) (c) (iii) (d) (ii)

Appendix

List of suppliers for baking Equipment and Tools

- Continental Equipment**, E1/1, Jhandewalan Extension, New Delhi
- Harijan Traders**, B-87, Radhey Shyam Park, Parwana Road, New Delhi-05
- Hindustan Dough House**, 867/8, Joshi Road, Karol Bagh, New Delhi
- Hotel Equipment**, 6548, Qutab Road, New Delhi
- Mehta Bros**, 1482, S.P. Mukherjee Marg, Delhi-110 006
- Moti Enterprises**, 60/42 Ramjas Road, Karol Bagh, New Delhi-05
- National Steel**, Parel Industrial Area, Bombay
- Paramount Industries**, Moti Ram Road, Shahdara, Delhi-32
- Relief India**, 159, Kamla Market, Asaf Ali Road, New Delhi-2
- Thakkan Equipment**, Okhla Industrial Estate, New Delhi
- Vinsan**; Marketed by : **Anushree Kitchenware Pvt. Ltd.**, Delhi-110054

BISCUITS

2.1 INTRODUCTION

Biscuit is one of the most important snack terms used in an average household. We cannot think of tea without biscuits. A normal morning or afternoon tea is generally accompanied by plain biscuits whereas a high tea (i.e. a formal tea party) would include fancy biscuits like cream crackers, coconut cookies etc. A lot of different varieties of biscuits are being produced by large scale manufacturers with automatic plants, where biscuits are packaged and distributed within a short time of leaving the oven. But even in this era of large scale production some special varieties of biscuits are still produced by small bakers. The finer points of making delicious biscuits at home are discussed here.

2.2 OBJECTIVES

After reading this lesson, you will be able to :

- classify biscuits on basis of method of preparation;
- describe the procedure of baking different kinds of biscuits;
- evolve and follow appropriate recipes for baking various types of biscuits;
- identify the faults that can arise if appropriate procedures are not followed and give suggestions for rectification.

2.3 CLASSIFICATION OF BISCUITS

The taste and crispness of a biscuit depends upon the raw material used and the method of making. Depending upon these two factors, we can broadly divide the biscuits into the following categories
Biscuits made from :

1. pastry dough
 2. creamed dough
 3. egg white mixture
 4. whisked egg dough
 5. doughs rich in honey and other sugar syrups.
-

2.4 BISCUITS MADE FROM PASTRY DOUGH

We can make both sweet and savoury biscuits from this dough. Two basic pastry doughs can be used for making biscuits—short crust dough and puff dough. We are going to learn the making of short crust dough in this chapter. Puff dough, which requires a considerable amount of skill and finesse, will be discussed later in a detailed chapter on various pastries.

The Short Crust Dough — This basically consists of flour, fat, and a moistening liquid. Flour provides the bulk and fat contributes tenderness or shortness to the biscuit. Sugar and egg, if included in the recipes, produce richer products i.e. sweeter and better taste.

The special points to be taken care of while producing good short crust biscuits are :

1. Keep ingredients cool.
2. Work in a cool area
3. Handle the ingredients as little as possible as this results in rougher biscuits.
4. Too much handling of dough also results in fat becoming oily which is not desirable.
5. Use ice cold water for binding the ingredients. Do not add too much water.
6. Before rolling, chill the dough in a freezer so that butter becomes firm. The resting period also relaxes the gluten in the flour thus making the dough less elastic and easier to roll.

(A) JAM TARTS

The ingredients:

For Short crust paste

Flour	—	120g
Margarine	—	60g
Baking Powder	—	1/4 tea spoon
Castor Sugar	—	10g

For Filling

Jam - 60g

The Method

1. Sieve flour and baking powder in a thali/tray.

2. Cut the margarine into small pieces with a palette knife and rub it lightly with the finger tips until it resembles bread-crumbs.
3. Add castor sugar and mix lightly.
4. Sprinkle ice cold water a little at a time and make soft dough without kneading. Work in a cool area to avoid fat from melting.
5. Dust the clean marble top with flour and roll the dough lightly to 1/4" thickness.
6. Cut the dough with a biscuit cutter which is of the same size as the tart mould.
7. Prick each tart with a match-stick/fork to make some small holes. This will prevent the tarts from puffing during baking.
8. Line the tart moulds with some fat and dust with flour.
9. Fill each tart with jam upto 2/3 level.
10. Bake in a preheated oven at 180°C for 12 minutes. When golden brown, remove from the oven and cool on a cooling rack.

Garnishing — Refers to decoration. Roll out a small ball of the short crust paste thinly, cut into thin strips. Place a twist of this strip on top of the jam and place half a cherry on the top.

(B) RICH BISCUITS

The ingredients:

Flour	— 250g
Icing Sugar	— 100g
Butter	— 125g
Salt	— ½ tea spoon
Baking Powder	— ½ tea spoon
Egg	— 1
Vanilla essence	— ½ tea spoon
or grated lemon rind	— 1 tea spoon

For egg and caramel glaze

Egg yolk of 2 eggs, sugar - 20g, water - 2.5 ml.

Method :

1. Sieve the flour, salt and baking powder and put into a mixing bowl.
2. Add icing sugar and butter cut into small cubes.
3. With your finger tips, rub the butter into dry ingredients until it is evenly distributed and the consistency of the mixture is like bread crumbs.

4. Mix egg, egg yolk and flavouring.
5. Mix, knead slightly and shape into a ball.
6. Place in the refrigerator to chill for 30 minutes.
7. Flatten the ball with your hand and then roll to a thickness of $\frac{1}{8}$ of an inch using a rolling pin and dry flour.
8. With a round biscuit cutter (4 inches in diameter) cut out 10-12 biscuits, leaving as few dough scraps as possible.
9. Gather the dough scraps gently and press them together.
10. Flour the surface and again roll to $\frac{1}{8}$ of an inch, cut out.
11. Using a palette knife, transfer each biscuit to a greased tray in rows.
12. To prepare egg and caramel glaze : put sugar and water in a heavy bottomed saucepan and cook on medium heat, stirring lightly until it becomes a rich, red brown. Break up egg yolks with a fork and pour into the water and caramel mixture until the glaze is deep golden-brown.
13. Paint each biscuit with the glaze, taking care to keep the glaze off the baking sheet. When finished, glaze them for the second time. Then with the tines of a fork, scratch marks on the biscuits in square, diamonds or triangles.
14. Bake in a preheated oven at 200°C for about 15 minutes. Do not judge whether the biscuits are done by the colour of the tops, which will be dark from the glaze and will give a false impression. Instead, check the undersides which should be golden at the end of cooking.
15. Arrange the biscuits on a rack as soon as they come out of the oven to allow proper cooling.

INTEXT QUESTION 2.1

State true or False (T/F)

1. Pastry dough should be kneaded well to get crisp pastry dough biscuits.
 2. Cold area is more suitable for making of biscuits.
 3. Chilling of dough before rolling results in better texture of biscuits.
 4. We use warm water for binding the ingredients so that binding is easier.
-

2.5 BISCUITS MADE FROM CREAMED DOUGH

Creaming is the process of beating together butter and sugar so that air bubbles are forced into the batter. The aerated mixture is then moistened with eggs. Finally flour is added to make the dough. This creamed dough is very versatile and is the starting point for more biscuits than any other dough.

Creamed dough provides many opportunities for imaginative shaping. It can be firm enough to be rolled out and cut with biscuit cutter into various attractive shapes, like circles, hearts, diamonds, squares etc. We use biscuit cutters for getting these basic shapes. A less firm dough can be simply dropped from a spoon to produce chunky, irregular shapes. You can also pipe various shapes by using a piping bag and nozzle.

Further variations can be made by changing proportions of the basic mixture by increasing the quantity of egg (it will form cake-like biscuits) or a few drops of flavouring essence or grated rind of citrus fruits or ground spices. You can also blend in raisins, nuts, currants or chopped crystallized. Chocolate can also be blended with dough to get darker chocolate taste.

Any of the icings, glazes or garnishes (that you learn about in coming chapters) can be used to flavour and decorate the biscuits.

Points requiring attention

1. In this method of biscuit making creaming is the most important step as it aerates the mixture by incorporating air bubbles. Creaming should be carried on properly so that the mixture increases in volume and becomes light and fluffy.
2. While adding eggs, sometimes the mixture may look curdled, but the flour will bind it together and there is no need to panic.
3. Add flour gently and a little at a time. Avoid over working the dough as this would strengthen the gluten, making the dough tough when baked.

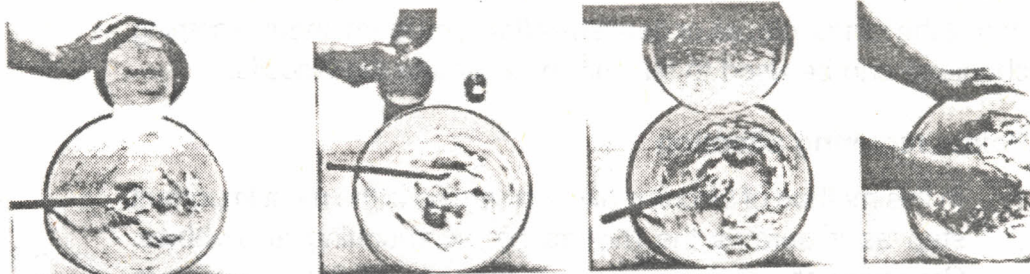
FRUIT BISCUITS

The ingredients:

Flour	—	325 g
Margarine	—	250g
Icing Sugar	—	190g
Egg	—	1
Baking Powder	—	¼ tea spoon
Glazed cherries	—	50g

Method:

1. Cream fat and icing sugar in a clean enamel bowl with a wooden spoon till the mixture is light and fluffy.
2. Add egg and cream and beat again for about a minute.
3. Sieve flour and baking powder and mix it in the creamed mixture, taking care not to knead too much.
4. Chop glazed cherries and mix in the soft dough.
5. Dust the marble top with some flour and roll out the prepared dough very lightly upto a thickness of $\frac{1}{4}$ th of an inch.
6. Cut as many shapes as possible from the rolled dough using a fluted biscuit cutter.
7. With a metal palette knife, transfer the cut biscuits into a greased baking tray (Grease the tray lightly with any fat).
8. Bake at 160°C for about 10-12 minutes.
9. Once they attain golden brown colour remove them and cool on a cooling rack.

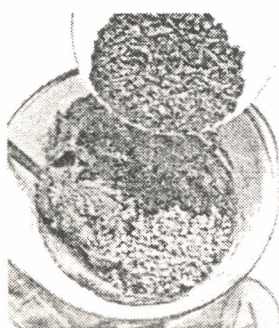


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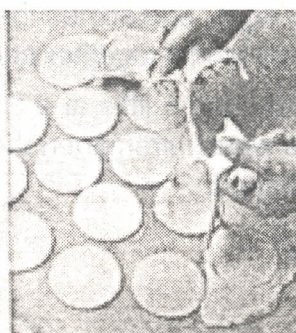
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4



5



6

**2.6 BISCUITS MADE WITH EGG WHITE MIXTURES**

Biscuits made from egg white mixtures are light in texture, e.g. Macaroons. When egg whites are lightly beaten it becomes a loose

foam which can be used to bind dry ingredients. Nuts are often used as the basis of such mixtures, replacing the flour that provides the body of most biscuit dough. A blend of nuts and sugar, moistened with sufficient egg white to form a batter, will produce crisp light macaroons. These biscuits have a deliciously chewy texture.

Points to consider

1. It is important to separate the egg white meticulously from the yolk so that no trace of yolk is left in the white. Egg yolk contains fat which prevents proper rising of egg white.
2. For the same reason, use scrupulously clean utensils without a trace of grease.
3. Nuts, if used, should be finely ground to achieve a smooth, even mixture.

PEA NUT MACAROONS

The Ingredients :

- | | | |
|--------------------------------------|---|--------------|
| 1. Egg white | — | of 2 eggs |
| 2. Grain sugar | — | 90 g |
| 3. Husked and finely chopped peanuts | — | 90g |
| 4. Vanilla essence | — | 5 to 6 drops |
| 5. Salt | — | 1 pinch |

Method:

- (1) Beat the egg white with a pinch of salt, in a clean copper vessel.
- (2) Keep on adding sugar little at a time during the beating process till all the sugar is utilised. Also add vanilla essence during beating.
- (3) Slowly fold in the chopped peanuts with a palette knife, so that the peanuts mix evenly into the mixture without sinking the egg white.
- (4) Pipe out the mixture with a piping bag and a star nozzle on a greased baking tray. The piped mixture should be the size of a tea spoon.
- (5) Bake at 140°C till the macroons attain golden brown colour. Approximate time required is 15 to 20 minutes.

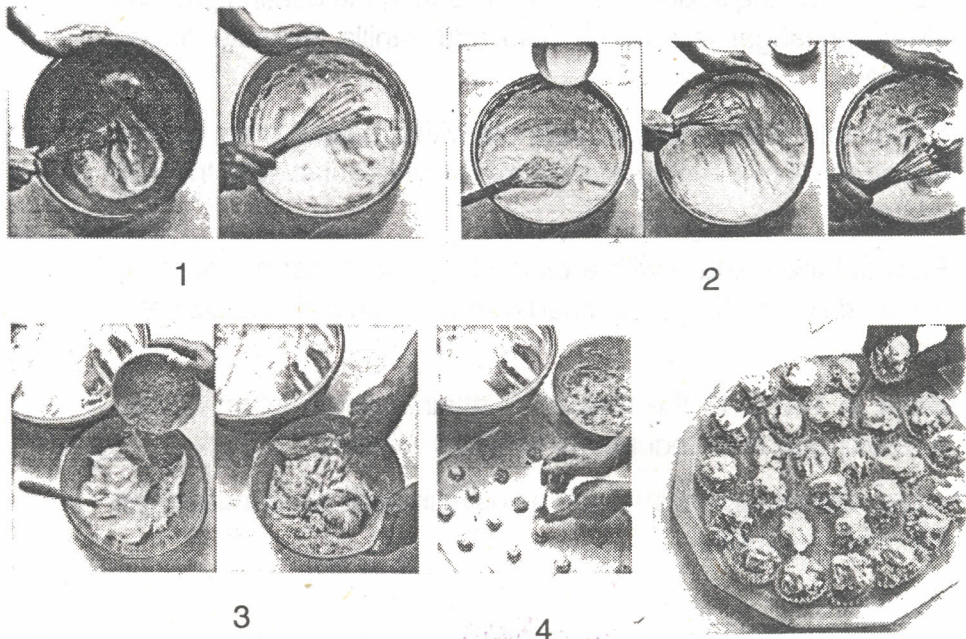
Note:- Desicated coconut can be used instead of peanuts to get coconut macroons.

INTEXT QUESTION 2.2

1. Give one line answers
 - i) What is creaming?
 - ii) How would you rectify a curdled mixture?
 - iii) Does curdling of mixture affect biscuit quality?
 2. State true or false.
 - i) Presence of fat on eggwhites hinders rising while whisking.
 - ii) Biscuits made from egg white mixtures are short in texture.
 - iii) Nuts, when added to a biscuit mixture, are generally ground well.
-

2.7. BISCUITS MADE FROM WHISKED EGG DOUGH

We made the biscuits from egg white mixtures by using only the whites from the eggs, sugar and nuts, whereas whisked egg dough biscuits contain whole eggs, sugar and flour. Fats are optional. The quantity of flour to be added varies from recipe to recipe. By lowering the amount of flour, you can make light biscuits that rise during baking while recipes requiring a higher proportion of flour give comparatively harder biscuits. Flavourings like lemon or orange rind, aniseeds, flavoured liqueur or spices like cinnamon can be added to the dough.



Biscuits made from this dough have a slightly risen surface due to the expansion of entrapped air in the dough while baking. So they appear slightly dome shaped. This domed surface is a characteristic feature of these biscuits.

ORANGE BISCUITS

Ingredients:

Grated orange rind	—	of 1 Orange
Castor Sugar	—	120g
Eggs	—	2
Egg Yolks	—	of 2 eggs
Olive oil	—	4 Table spoons
Rum	—	4 Table spoons
Flour	—	250g

The method :

1. Beat the sugar, eggs, egg yolks and orange rind in a clean bowl till light and thick.
2. Continue mixing, adding the oil, rum and flour to make a fairly light dough.
3. Dust your marble table top with little flour and roll out the dough upto the thickness of ¼".
4. Cut the dough with round or fancy shaped biscuit cutters.
5. Put the biscuits on a greased baking tray and bake in a preheated oven at 180°C for 2 minutes, till they begin to brown.

2.8 BISCUITS FROM SYRUP AND HONEY DOUGH

Syrups are thick, sweet liquids like honey, treacle and molases. We have discussed these syrups in our first chapter on Bakery Ingredients or raw materials. These syrups provide extra sweetness, a warm brown colour and a distinctive flavour to the biscuits. In these doughs we can also use brown sugar and certain spices like ginger, nutmeg, cinnamon, cardamom etc. to get richer biscuits.

A little bicarbonate of soda is sifted along with the flour. It produces bubbles of carbondioxide and raises the dough, thus lightening the texture of biscuits.

TIPS FOR MAKING BETTER BISCUITS

1. For best results, buy the spices whole, store them in air tight containers and grind the required quantities whenever needed.

This ensures better flavour of the spices.

2. If the syrup is too thick and it becomes difficult to blend in the flour, warm it slightly. You can also add butter at this stage to get a thinner consistency.
3. Always sift flour, soda bicarbonate and dry powdered spices together for even mixing.

CHOCOLATE COOKIES

Ingredients :

Bitter chocolate, grated	—	140g
Molasses	—	250ml
Soft brown sugar	—	500g
Softened butter	—	250g
Soda-bi-carbonate	—	1 teaspoon
Flour	—	350g

The Method :

1. Mix all ingredients together to make a stiff batter, using just enough flour to roll out the mixture.
2. Roll out the mixture on a dusted marble top upto a thickness of $\frac{1}{4}$ ".
3. Cut with a biscuit cutter, about 3 cm in diameter.
4. Place grease proof paper on a baking try and bake the biscuits on the paper in a preheated oven at 200°C for about 12 minutes.
5. When baked and cooled, store in an air tight container.

INTEXT QUESTIONS 2.3

1. Name a few syrups used in biscuit making.
 2. Why are syrups used while making biscuits?
 3. Name some flavouring agents and spices used in biscuits.
 4. Fill in the blanks:
 - i) Biscuit are an important _____ item.
 - ii) We can classify biscuits on the basis of _____ and _____.
 - iii) Too much handling of short crust dough results in fat becoming _____.
-

- iv) Creaming is beating together of _____ and _____ so that air is enforced into the mixture.
- v) Macaroons have a _____ texture
- vi) For proper whisking of eggwhites it is important to seperate _____ from _____.

ANSWERS TO INTEXT QUESTIONS

2.1 1.F 2.T 3.T 4.F

- 2.2 (1) i) The process of beating together sugar and butter so that it is aerated.
ii) Add flour to bind the mixture.
iii) No.

(2) (i) T (ii) T (iii) T

- 2.3 1. Honey, treacle, molasses
2. For extra sweetness, warm brown colour, distinctive flavour.
3. Ginger, nutmeg, cinnamon, cardamom, etc.
4. (i) snack
(ii) raw material, method
(iii) oily
(iv) fat, sugar
(v) light
(vi) white, yolk
-

CAKES

3.1 INTRODUCTION

What is the first thing you think of when you hear or talk about a birthday party? Yes, it is the cake! When you think of the taste it makes your mouths water and the colour and decoration make your eyes glitter.

However, there are also plain cakes, which are not decorated and not very colourful but they have their own importance. Think of a Christmas Cake with lots of dry fruits inside and a particular wine flavour. Such cakes also have a wonderful taste and have their own charm.

3.2 OBJECTIVES

After reading this lesson, you will be able to :

- list different types of cakes;
- demonstrate the method of preparation of different types of cakes;
- explain the uses of cakes during different meals;
- identify faults that can arise during preparation of cakes;
- suggest how such faults can be avoided.

3.3 CLASSIFICATION OF CAKES

Basically, cakes are made by creaming together fat and sugar, then adding eggs and flour, or by whisking eggs and sugar and then folding flour into them. Whenever a cake is decorated after baking, the outer layer or paste which is used for decoration is known as icing. Based on the type of cakes which are iced and which are not they may be classified into two types—

- (i) Cakes without icing
- (ii) Cakes with icing

(i) Cakes without Icing

These are cakes with a rich texture, i.e. they contain higher percentage of fat or butter may contain dry fruits, fruits etc. These do not require any icing. They may be eaten directly or may be decorated

with other items like jam, icing sugar, desicated coconut etc. Such cakes are normally served during high tea or as independant snack item. They are generally not used as desserts. The following cakes will fall under this category:

- (i) Butter Sponge
- (ii) Caramel Cake
- (iii) Madeira Cake
- (iv) Victoria Sponge
- (v) Swiss Roll

(ii) Cakes with Icing

The base for decorated cakes is a fatless sponge or genoese. It is very light fluffy in texture and after application of icing acquires the required richness.

The different types of icings used on the cakes have been discussed in a separate topic on Icings. The following cakes will fall under this category:

- i) Cream and fruit cakes e.g pineapple cake
- ii) Black forest cake
- iii) Chocolate truffle cake
- iv) Butter icing cake
- v) Royal icing cake

3.4 GENERAL METHODS FOR MAKING CAKE

These vary according to the ingredients used in the recipe. The proportion of fat, sugar and eggs used in respect to the flour, and the method of incorporating them, affect the final product. There are four basic methods of preparing cakes. They are :

- 1) Rubbing-in-method
- 2) Creaming method
- 3) Whisking method
- 4) All in one method

(i) Rubbing in method

In this method, the fat is first cut with a knife into very small pieces. For this, the fat should be first chilled. After sieving, the flour is kept

in a thali. The fat is then added into the flour and rubbed with finger tips till all the fat is mixed into the flour and the mixture looks like bread crumbs. This method is used in recipes where the weight of the fat is not more than half that of the flour e.g. 100 of fat with 200g flour or more.

ii) Creaming method

In this method the fat should not be chilled but should be soft (not heated). The fat is first placed in a clean enamel bowl and mixed with a wooden spoon. Sugar is then added little at a time and the mixture is mixed with a wooden spoon regularly till all the sugar is utilized. The mixture becomes light and fluffy. This method is used for richer cakes including those where the weight of fat and flour are equal.

iii) Whisking method

The eggs are shelled and kept in a clean bowl. Sugar and essence are then added into the eggs. The mixture is then whisked to form a thick foam. After that the flour is mixed into the mixture to form the batter. This should be baked immediately or the batter will sink.

iv) All in one method

All the ingredients are placed together in a bowl, then beaten until the mixture is smooth and creamy. This method is used when you want a quick preparation.

SOME TIPS

Before actually starting with the preparation of cakes it is very important to know some hints that will help you to make good cakes.

1. Check that all the needed ingredients and equipment are ready to hand.
 2. Weigh and measure the ingredients carefully, prepare tins as required. The steps in preparing cake tins have been discussed separately.
 3. Follow the recipe exactly.
 4. When using creaming method, beat the fat by itself until it is soft, before adding sugar.
 5. Use egg and fat at room temperature.
 6. For one stage method, use all ingredients at room temperature.
 7. Do not open the oven door unnecessarily. This will bring down the oven temperature.
-

8. Test the cake for readiness before taking it out from the oven. Cakes should be evenly browned and have come away from the sides of the tin slightly. If pressed from top, the mixture should spring back.
9. Allow the cake to cool slightly in the tin so that it can be turned out without breaking.
10. Leave very rich cakes like wedding cakes to cool completely in the tin, otherwise they will break.

Preparing tins for baking

There are four principal ways of preparing the inside of cake tins, and surface of baking sheets.

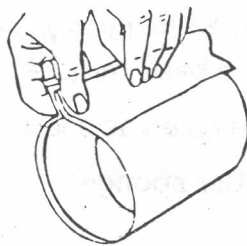
1. Baking sheets or trays as for swiss rolls and biscuits should be greased.
2. For rubbed in cakes, grease the tin and line the base with grease proof paper.
3. For creamed mixtures, line both the sides, and the base of the tins with grease proof paper.
4. For sponge cakes, brush the tin with fat, then coat it with equal quantities of flour and caster sugar sifted together.

To line a tin-round or square

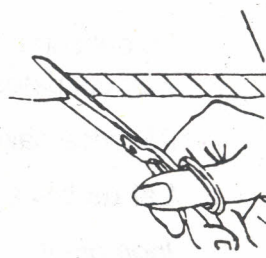
A square tin holds the same amount of mixture as a round tin about 2 cm larger in diameter. e.g. a recipe calling for 18 cm square tin can equally well be baked in a round 20 cm tin, provided the tins are of the same depth.



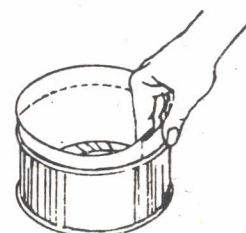
Measuring paper to fit the base of the tin



Measuring a strip to fit the sides of the tin



Snipping along bottom edge of strip towards fold



Placing the strip in the tin

1. Measure and cut a single or double piece of paper to fit the base of the tin. Ensure that it is not bigger than the base or it will spoil the shape of the cake.
2. Measure and cut a strip, long enough to line the sides of the tin. Make the strip 5 cm deeper than the height of the tin.
3. Make a 2cm fold along the bottom of the strip and snip diagonally at 1cm intervals up to the fold.
4. Grease the tin and place the strip round the sides of the tin with the cut edges lying flat against the base. Fit in the round. Grease the lined tin.

INTEXT QUESTIONS 3.1

1. Fill in the blanks :
 1. Cakes may be classified into _____ types, namely _____ and _____.
 2. Cakes without icing are generally eaten at _____ time as _____.
 3. Madeira cake is flavoured with _____ and _____.
 4. Rich cakes are allowed to cool in the tin so they do not _____.
-

3.5 CAKES WITHOUT ICING

A) BUTTER SPONGE

This cake is prepared by the creaming method. In all cakes prepared by this method proper creaming is of utmost importance as the rise in the volume of the cake is directly influenced by the amount of air incorporated at this stage.

To get some variety better taste you can add tutti fruity or raisins or walnuts dates to the basic mixture at the final stage of mixing.

All these cakes are eaten as snack items with tea or coffee.

Let us bake a butter sponge

Ingredients :

- | | | |
|-----------------|---|------|
| 1. Flour | — | 115g |
| 2. Castor sugar | — | 115g |
| 3. Margerine | — | 70g |
-

- 4. Baking powder — ¼ tea spoon
- 5. Eggs — 5 ml.

The method :

1. Sieve flour along with baking powder in a thali.
2. Cream fat and castor sugar in an enamel bowl with a wooden spoon, adding sugar little at a time, till all the sugar is consumed. Keep on creaming till the mixture becomes light, fluffy white in colour.
3. Beat eggs in a clean bowl with an egg beater after adding vanilla essence.
4. Mix the beaten eggs little at a time in the fat and sugar mixture and keep on mixing after every addition. Finish all the eggs.
5. Fold in the flour and baking powder in the mixture with a palette knife till all the flour is properly mixed.
6. Mix milk or water in the end. The mixture should have dropping consistency—if lifted with a knife it should slowly drop down, in lumps and not pour like a liquid.
7. Place the mixture in a ½ kg prepared cake tin and level from top with a palette knife.
8. Bake in a preheated oven at 170° C for about 20 minutes, check for doneness as discussed earlier.
9. Remove from the oven and cool on a cooling rack.

Try some Variations

- (i) To get fruit cake, mix 50 g of tutti frutti in the mixture after mixing flour.
- (ii) To get Queen cake, mix 50g of chopped raisins.
- (iii) To get date and walnut cake add 30 g of chopped dates and 30g of chopped walnut.

B) CARAMEL CAKE

Although this cake is similar to Butter Sponge, its method of preparation is somewhat different. More over, it is darker in colour and flavoured with caramel.

This cake is a good snack item and is appreciated with coffee. The flavour of caramel goes well with coffee. The method of preparing caramel is given along with the method of preparing this cake.

To make caramel cake

Ingredients :

Flour	—	115g
Baking powder	—	¼ tea spoon
Grain sugar	—	85g
Margerine	—	70g
Eggs	—	2
Milk	—	2 tea spoon
Vanilla essence	—	¼ tea spoon

For Caramel

Grain sugar	—	30g
Water	—	1 tea spoon

The Method :

1. Seive flour and baking powder in a thali.
2. Cream fat and flour on a clean marble top with clean hands, till you get net formation/jalli in the mixture.
3. Beat eggs with grain sugar, along with vanilla essence.
4. Add beaten eggs in the mixture gradually, mixing all the time.
5. Caramelize 30g of sugar with 1 teaspoon water in a small mould over fire. When it browns, remove. Allow to cool.
6. Add caramelized sugar and mix well. Add milk and mix again to get dropping consistency.
7. Pour the mixture in ½ kg prepared cake tin and bake at 170°C for about 20 minutes. Remove from the oven when cooked and allow to cool in the tin. Remove from the cake tin when cool.

C) MADEIRA CAKE

Madeira is a wine. This cake has the sharp flavour of wine and a light taste of lemon. The cake is coloured light yellow (lemon colour) as this indicates the presence of lemon juice in the cake. This cake is

normally eaten along with tea or coffee. Since this cake is light and more spongy as compared to butter sponge, it can also be decorated with icing to make it look more attractive.

Ingredients :

Flour	—	170g
Baking powder	—	½ tea spoon
Castor sugar	—	115g
Margerine	—	115g
Eggs	—	3
Lemon juice/Rind	—	½ Lemon
Red wine	—	15ml
Milk	—	2 tea spoon
Lemon essence	—	2 drops
Yellow colour	—	4 drops
Orange peel	—	2 strips

The Method :

1. Sieve flour and baking powder in a thali.
2. Cream fat and sugar, adding sugar little at a time, till the mixture becomes light and fluffy.
3. Beat eggs along with lemon essence and yellow colour.
4. Mix the beaten egg with the fat and sugar mixture, mixing little at a time till all the egg is used up.
5. Add lemon juice, lemon rind and red wine, and mix.
6. Fold in the sieved flour with a palette knife. Add milk to get dropping consistency.
7. Pour the mixture in prepared and lined ½ kg bread mould and level from top.
8. Bake at 170° C for about 25 minutes.
9. Gamish the cake with strips of orange peel.
10. Demould and when cool, cut into slices and serve.

D) VICTORIA CAKE

This is much simpler to make as compared to other types of cakes. In this cake the flour, butter and sugar are in equal proportion. Traditionally this cake is sandwiched together with jam and sprinkled

with icing sugar. The method of preparation is also very simple. All in one method (mentioned earlier) is used.

Ingredients :

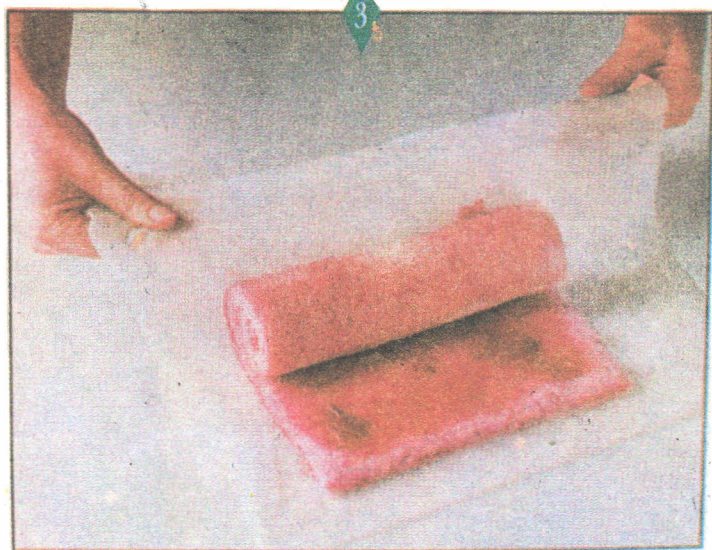
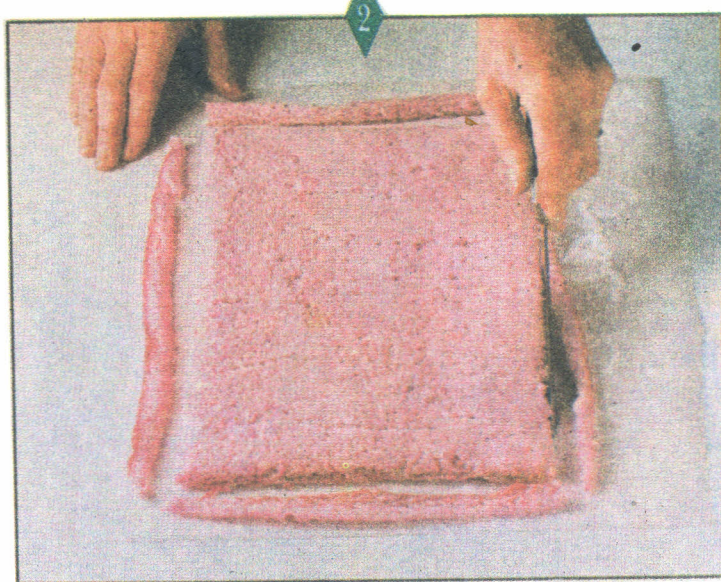
Flour	—	225g
Soft Margerine	—	225g
Castor Sugar	—	225g
Salt	—	1 Pinch (1 gram)
Eggs	—	4
Milk	—	75ml
Baking Powder	—	1 tea spoon
Jam	—	100g
Icing Sugar	—	20g

The Method :

- 1) Sift the flour in a bowl and add all ingredients into it.
- 2) Beat for 1 minute in a food mixer at the highest speed.
- 3) Scrape round the edge of the bowl with a spatula and beat for further 2 minutes, again, at the highest speed.
- 4) Spoon out the mixture into 10" diameter cake tin lined with brown paper.
- 5) Bake in a preheated oven at 170° C for 30 minutes.
- 6) Remove from oven and allow it to cool on a cooling rack.
- 7) Slice the cake horizontally from the centre and apply smooth jam on the lower half of the cake.
- 8) Cover the lower half again with the upper half and sprinkle icing sugar on the top (surface) to make various designs out of it.

E. Swiss Roll

Swiss Roll is a snack item, but it is also used as a base to some of the well known dessert. As the name shows, it is a rolled up cake. The base is a fatless sponge prepared by beating eggs, sugar and vanilla essence till the mixture becomes very thick. The art lies in preparing the roll from the sponge baked. Let us now learn how to bake a good sponge and to prepare delicious Swiss rolls from it.



Ingredients :

Flour	— 115g
Eggs	— 4
Baking Powder	— ½ tea spoon
Grain Sugar	— 115g
Vanilla essence	— ½ tea spoon
Jam	— 50g

Method :

1. In a clean bowl beat eggs, vanilla essence and 110 g of grain sugar till it becomes thick and frothy. This will take you approximately 15 to 20 minutes to do.
2. Sift flour with baking powder and slowly mix into the mixture with a palette knife. Do you remember what a palette knife looks like?
3. Prepare a swiss roll tray by lining it with brown paper (as you do for cake tins) and bake the mixture for about 12 minutes in a pre-heated oven at 190°C. It will turn golden brown from top.
4. In the mean time, cut a butter paper slightly bigger than the swiss roll tray (2" bigger from each side) and sprinkle the remaining 5gms of sugar evenly over it. Melt the jam and cream. This should be done while the sponge is in the oven.
5. When the sponge is cooked, place it upside down over the butter paper and quickly apply 50 gms of jam over it.
6. While still hot, roll up the sponge, leaving the butter paper down.
7. After rolling up, wrap the roll in the same butter paper. When you want to use it remove the butter paper and cut into slices.

3.5 FAULTS AND REMEDIES IN CAKE BAKING

When you first start baking cakes, you may end up with a cake which has burst at the top or one which is well done at the top but half done underneath. In order to avoid such faults, you must know the cause behind them. Only then can you remedy the faults. In order to bake a perfect faultless cake, let us learn the faults that can arise.

Cake faults are broadly divided into :

- | | |
|-------------------|-------------------------|
| 1. Shape faults | 2. Structural faults |
| 3. Texture faults | 4. Crust faults |
| 5. Colour faults | 6. Miscellaneous faults |

1. Shape Faults

A) Collapsed cake with white spot on the surface.

Causes

- i) Too much Sugar

This leaves sugar particles, as white spots on surface. To avoid this, formula must be balanced and sugar correctly weighed.

- ii) Too little liquid

Less liquid can cause this fault. The cake mixture should have dropping consistency. Add milk or water to get this consistency.

Effects & Remedies

B. Baked with peeled top

Causes

- (i) Insufficient mixing

This is due to over or under mixing of the mixture. Over mixing causes air to escape, while under mixing leaves no space for air to expand. Hence mixing should be proper.

- (ii) Too much heat from top

Too much heat will expand cake fast and set it early. The top crust will burst due to quick expansion. Since the oven has two heating elements, one below and one on top, the best remedy would be to switch off the top element. Otherwise the cake tin can be covered from top when there is only one heater.

Effects & Remedies

C. Cake with flat top

Causes

- i) Oven too cool

This gives a slower and more even expansion in the oven, yielding a flat top. Hence use correct baking temperature as mentioned in the recipe.

- ii) Incorrect balance between fat and egg

If the proportion of fat is high, the egg will not be able to support it and the result will be a flat surface. To avoid it, follow the recipe correctly.

Effects & Remedies

2. STRUCTURAL FAULTS

A. Under baked area under top crust

Causes

Effect & Remedies

- | | |
|------------------------------------|---|
| i) Under baking | The area under the crust will have higher moisture content resulting in damp unbaked surface. If the top crust is highly coloured and the area under the crust contains moisture, reduce the temperature and the baking time. |
| ii) Bumping the cake during baking | If the cake is shaken before setting, some of the cells in the middle will collapse resulting in damp, apparently unbaked area. Hence, do not disturb the cake in the oven before it is baked. |

3. TEXTURE FAULTS

Causes

Effects & Remedies

- | | |
|-----------------------|---|
| i) Less baking powder | The cake will be heavy as no air will be released. Hence, weigh or measure baking powder correctly. |
| ii) Too much liquid | This will close the cake and the cake will lack lightness. |
| iii) Too little sugar | This will allow the cake to set too early and give less time to expand. |

4. CRUST FAULTS

A. Cracks on the surface of the cake

Causes

Effect & Remedies

- | | |
|----------------------|---|
| i) Too hot oven | Due to excess heat the surface gets sealed and hard. Due to pressure from below the surface cracks during baking. This can be avoided by lowering the temperature of the oven by reducing heat and opening the oven door. |
| ii) Too little sugar | Sugar plays an important part in cake making. Hence measure it correctly. Too little sugar will allow the cake to set too early and as a result the surface of the cake will crack. |

- ii) Over filling the tin with cake batter

The batter reaches the top of the tin too quickly and crust will form before expansion is complete. This will make the crust crack. Try to line the tin 2" above the size of the cake to allow full expansion of cake batter.

5. COLOUR FAULTS

Causes

Effects & Remedies

A. Discoloured crumb

- i) Too much bottom heat
- ii) Too much baking powder

The base is over baked and this causes discolouration. Regulate the bottom heat if the oven is too hot.

Too much baking powder causes dehydration of sugar which causes it to caramelise. Hence measure baking powder correctly.

B. White spots on the surface of the cake

- i) Batter standing too long
- ii) The use of very large grains

The moisture from the surface before baking of the batter will evaporate leaving the sugar in a dry state. When baked in this condition, white spots are formed on the surface of the cake.

In case immediate baking is not possible, keep the cake batter in the cake tin covered so that the moisture from top does not evaporate.

If sugar crystals are too large they dissolve slowly. Hence when the cake is fully baked the sugar crystals do not get dissolved leaving white spots.

Remedy : Use fine sugar.

6. MISCELLANEOUS FAULTS

Mould growth

Causes

Effects & Remedies

1. Excessive moisture

Moulds require moist conditions in which to grow. If the outer surface of the cake becomes very moist it will cause mould

formation. Do not wrap the cake when it is hot, but allow it to come to room temperature before wrapping.

INTEXT QUESTIONS 3.2

1. Butter sponge cake is prepared by _____ method, creaming fat along with _____.
 2. In caramel cake fat is creamed along with _____.
 3. In Victoria cake equal qualities of _____, _____ and _____ are used.
 4. Swiss Roll is a _____ cake (give the shape)
 5. Answer the following questions :
 - i) Why is creaming important in a butter sponge? To what extent should it be done?
 - ii) Why can you use grain sugar in caramel cake instead of castor sugar?
 - iii) Which are the different shapes in which you can prepare Madeira cake?
 - iv) Which method of preparation is used in preparing Victoria cake?
-

3.6 DECORATED CAKES

Fatless sponge cake is the base of all decorated cakes. This sponge is baked in the cake tin of the desired shape and size and then decorated with the required type of icing to get the following types of cakes.

1. Cream and Fruit Cake

For example, pineapple cake. Here the fatless sponge cake is decorated with cream icing (discussed in a separate topic on icings), and then decorated with fresh or tinned fruits, e.g., pineapple.

2. Black Forest Cake

Fatless chocolate sponge is decorated with cream icing and covered with flakes of chocolate on top. Cherries are used here for decoration.

3. Chocolate Truffle cake

Fatless chocolate sponge is decorated with cream and chocolate cooked together till the chocolate melts and poured over the cake till the icing sets. (Discussed in the topic on icing).

4. Butter icing cake

Fatless sponge cake is decorated with different coloured butter icing (discussed on the topic on icing).

5. Royal icing cake

Fatless sponge cakes are decorated with marzipan and Royal icing (discussed in the topic on icings).

A. Fatless Sponge

Ingredients :

- | | |
|--------------------|---------------|
| 1. Flour | - 60g |
| 2. Grain Sugar | - 60g |
| 3. Eggs | - 3 |
| 4. Vanilla essence | - ½ tea spoon |

Method :

- (1) In a clean bowl, free from fat and moisture, beat eggs, sugar and vanilla essence with a clean egg beater.
- (2) Keep on beating (for about 20 minutes) till the mixture becomes thick and foamy.
- (3) Slowly mix in the sifted flour, little at a time and mix with a palette knife. Do not over mix otherwise the batter will sink.
- (4) Bake in a prepared 1/2 Kg tin at 150°C for about 20 minutes. Do not move the cake tin in between when the cake is in the oven, or the sponge will sink.
- (5) Remove and cool on a cooling rack.

B. Fatless Chocolate Cake

Ingredients :

- | | |
|--------------------|--------------------|
| 1. Flour | - 50g Sieve & Mix. |
| 2. Cocoapowder | - 10g |
| 3. Eggs | - 3 |
| 4. Vanilla essence | - 1/2 tea spoon |
| 5. Grain sugar | - 60g |
-

Method :

This cake is made in the same way as a fatless sponge cake.

INTEXT QUESTIONS 3.3

1. List out the different decorated cakes.
 2. Give the recipe for preparing fatless sponge cake.
 3. How is chocolate fatless sponge different from fatless sponge cake?
-

3.7 ANSWERS TO INTEXT QUESTIONS

- 3.1
1. 2, cakes without icing and cake with icing
 2. tea time, independent snack
 3. wine and lemon juice
 4. break.
- 3.2
1. creaming; sugar
 2. flour
 3. flour, butter, sugar
 4. rolled up
 5. refer text.
- 3.3
1. refer text.
 2. refer text.
 3. refer text.
-

ICINGS

4.1 INTRODUCTION

Have you seen a cake in the shape of a 'joker' or a 'violin' or the 'Number' of the child's birthday ? I'am sure you must have. You must have also seen wedding cakes which have two or three tiers. And surely everone has eaten pastries which have pineapple or chocolate decoration. One enjoys the cake or pastry more because of the delicious covering on the top and sides. And while consuming these products you must have wondered how it has been made and some of you must have wished to learn it too.

Well, it is not difficult at all. All it needs is a little bit of knowledge, some guidance and a lot of practice in order to achieve that perfection. So, come, let us learn together.

4.2 OBJECTIVES

After reading this lesson you will be able to :

- classify icings according to the occasion it is to be used for;
- list material required for decoration ;
- explain the method of preparing the icings;
- demonstrate the technique of decorating the cakes.

4.3 WHAT WILL YOU NEED ?

When you set out to decorate a cake, you need some tools specifically suited for the process. Let us find out what those things are that you will need.

1. Grease proof paper- to line a cake base or to make a piping bag if needed.
 2. Piping bags of canvas or nylon. These are available readymade in the market.
 3. Sissors — for making a cut in the piping bag.
 4. Nozzles of different shapes — these are needed to create various designs.
 5. Brushes of different sizes - ranging from ½" to 2".
-

6. Palette Knife- to smoothen the first layer of icing on top and sides of the cake.
7. Sharp Knife - to slice the cake into two halves.
8. Rolling pin - to roll out icing in order to make flowers etc.
9. Flower cutters or biscuit cutters - to cut the icing into interesting shapes.
10. Cakes stand or turntable - on which the cake can be placed and moved easily while icing.
11. Cake pillars - needed to create two or three tiered cakes.
12. Cooling rack - to cool the sponge before icing.
13. Cake combs - for giving a decorative touch.
14. Cake decorations - like ribbons, laces, beads, flowers etc. These may or may not be edible.

4.4 THE BASIC PROCESS

As mentioned earlier, icing a cake is an art where one can utilise one's creative potential to the fullest extent. But before going further, let us first learn the very basic procedure of icing a cake. For simple decorations we can divide the process into four steps, namely:

1. **Preparing a cake base :** It is important to place the cake on a firm base so that it is easy to handle it during and even after decoration. A thick cardboard is cut slightly bigger than the size of the cake. If the cake is round, then the base can be 1" bigger in diameter than that of the cake. If the cake is square, then the cake base should be $\frac{1}{2}$ " bigger on each side. This cardboard is then covered evenly by an aluminium foil, so that the base looks attractive as well as becomes grease proof, and hygienic. Keep the prepared base on the turntable. The cake is then placed upside down in the centre of the cake base, so that you get a smooth, even top for decorating.
2. **Giving filling in the cake:** Depending upon the type of the cake, a filling is given inside the cake, e.g. chopped pineapple for pineapple decorated cake. For this you have to cut the cake horizontally into two equally thick layers. Place the bottom sheet of the cake on the base and cover with the filling. Then place the top layer over it in the original position as far as possible.
3. **Applying icing on top and sides:** The icing is then applied evenly on top and sides of the cake by a palette knife. This

requires skill as it has to be smoothened by a palette knife. Hold the palette knife vertically and rotate the cake stand keeping the palette knife surface in contact with the cake sides, if the cake is round. For a square cake the palette knife again has to be kept vertical and the sides of the cake should be smoothened. Similarly for the top, the surface has to be smoothened by the palette knife. The sides of the cake can then be combed with a cake comb to make the sides look more attractive. It is like a mason plastering a wall.

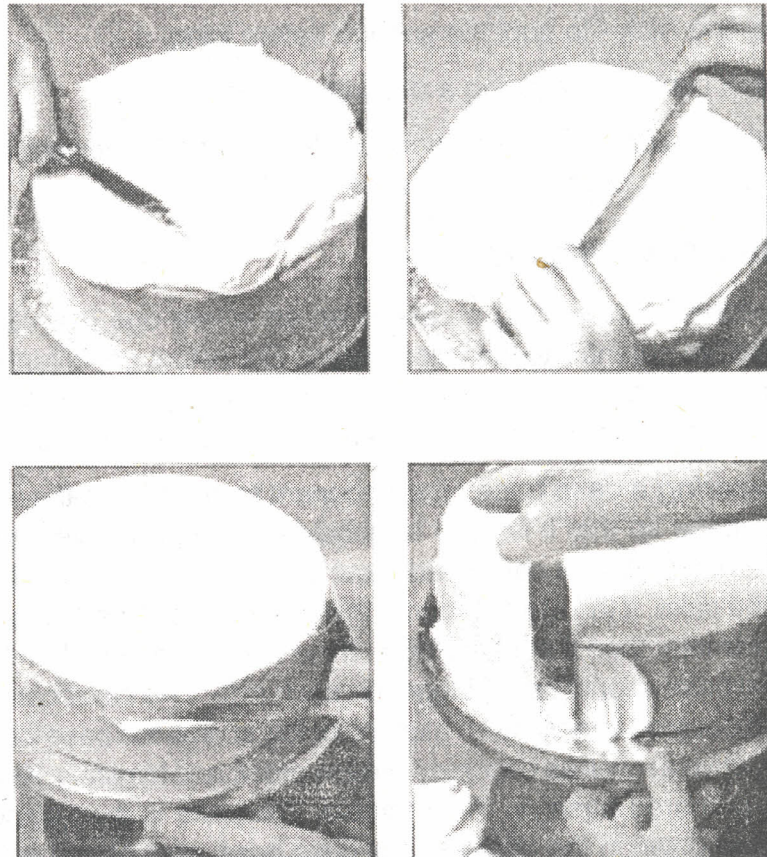
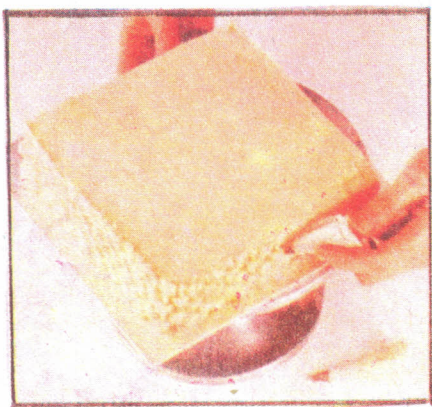
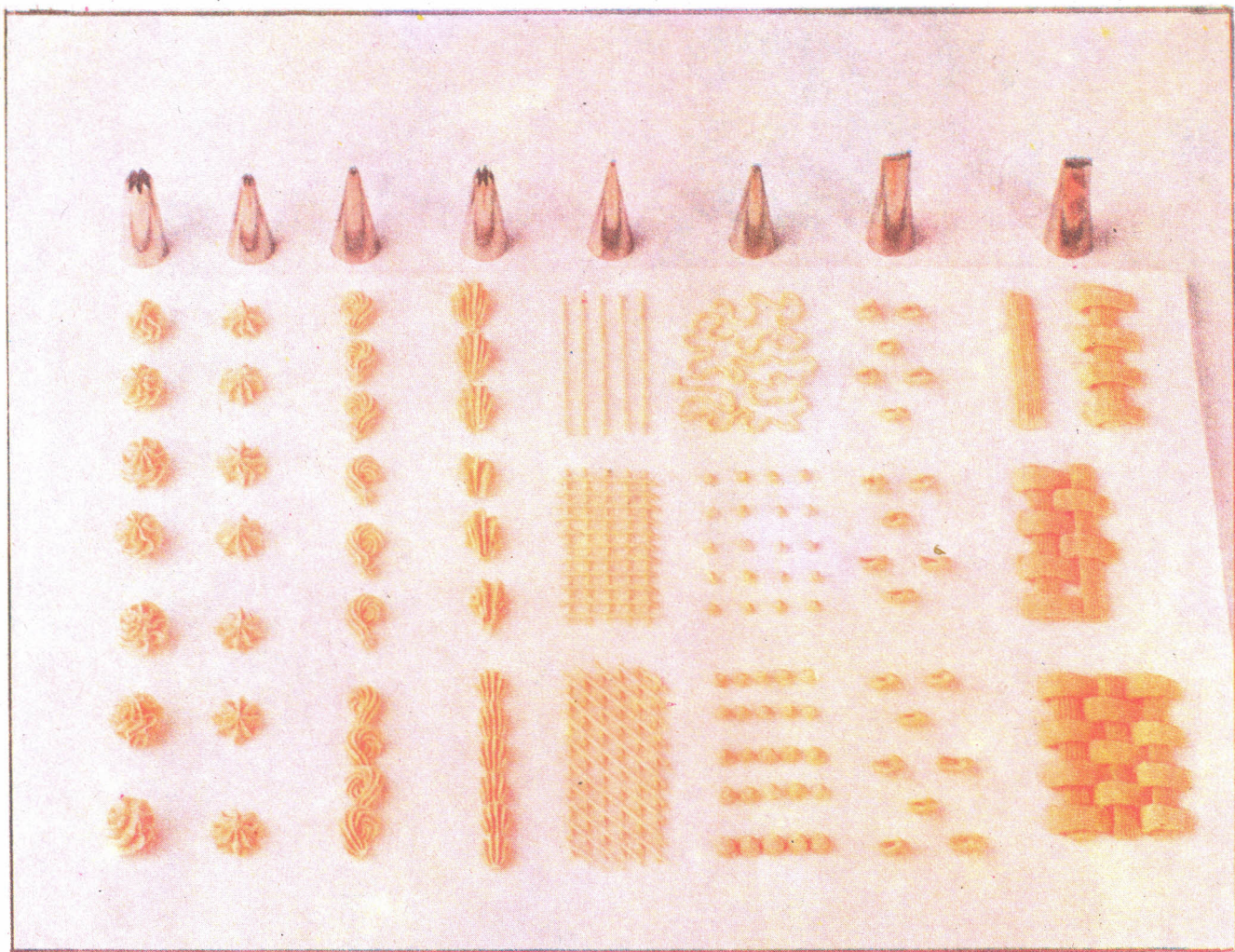


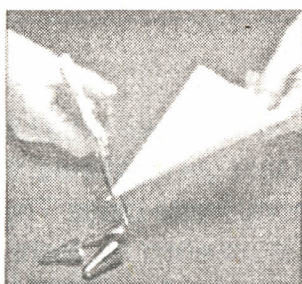
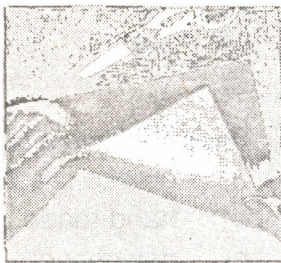
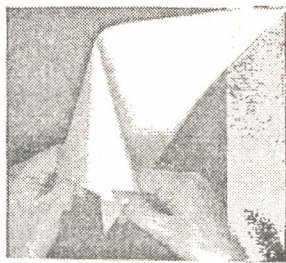
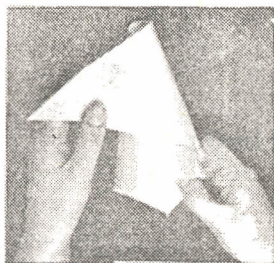
Fig. Applying icing on top and sides

4. **Piping and Decoration:** Lastly, the top is decorated by piping some icing into different designs. For this we require a piping bag and different nozzles for making different designs. Nozzles are available in different shapes. e.g. star nozzle, flower nozzle, ribbon nozzle etc. The icing mixture is filled in a piping bag, and the mixture is then piped on top of the cake e.g. a border can be given with a plain or a star nozzle, flowers can be prepared with a flower nozzle.



Steps for preparing a piping bag with a grease proof paper.

1. Cut out a 40cm x 25 cm rectangular grease proof paper. Fold diagonally in half to form two triangular shapes, each with a blunt end, cut along the fold line. Fold the blunt end of the triangle over into a sharp cone into the centre and hold in position.
2. Then fold the sharp end of the triangle over the cone shape. Hold all the points together at the back of the cone, ensuring the point of the cone is sharp.
3. Turn the point inside the top edge of the cone and crease firmly.
4. Secure with sticky tape or staple if desired.
5. Cut the tip of the cone with a knife so that the nozzle can be inserted through the cut from inside of the cone.
6. Insert the nozzle from inside of the cone so that it forms a firm tip.

**INTEXT QUESTIONS 4.1**

Select the most appropriate alternative:

1. Icing enhances the _____ of the cake.
a) weight

- b) looks
 - c) taste
 - d) keeping quality
2. Placing a cake on a cake base before icing makes it
- a) tall
 - b) look good
 - c) last longer
 - d) easy to handle
3. A round cake needs a cake base _____ bigger in diameter
- a) 1"
 - b) 2"
 - c) 3"
 - d) 4"
4. A square cake needs a cake base _____ bigger on each side
- a) 1/4"
 - b) 1/2"
 - c) 3/4"
 - d) 1"
5. The paper most suitable for making a piping bag is
- a) greese proof paper
 - b) hand made paper
 - c) newspaper
 - d) writing paper
-

4.5 THE ICINGS

How would you like the icing on your cake to be? Buttery? Creamy? Glaced? Or simply Royal ? Don't get frightened, these are only the names of some of the commonly made icings. The basic procedure remains the same. Variety is obtained by slight variations in the ingredients used. Come, let us learn the different types of icings.

1. Butter Icing

This is the most commonly used icing nowadays and about 50% of the cakes are made with butter icing. What is the reason for its popularity? It requires comparatively less amount of skill in preparing and is also easy to handle. It can be stored at the room temperature

for about a fortnight but the room should be a well ventilated one. It hardens on storing in the refrigerator, hence should be removed and allowed to return to room temperature before using.

The Recipe

For icing a 1/2 kg cake, you will need -

1. White saltless butter or margarine - 150 gm.
2. Icing sugar - 150 gm.
3. Colour - a few drops, according to the intensity required choice.
4. Flavouring - 1/4 tea spoon

How to make

1. Place the butter in a clean enamel bowl and cream slightly with a wooden spoon,
2. Add icing sugar, a little at a time and continue creaming till the mixture becomes light and fluffy.
3. Add colour and flavour of your choice and continue creaming. Add the colour gradually, a drop at a time. Can you say why this is necessary? In this way, you can stop adding the colour when the desired intensity of colour has been achieved.
4. Cover and store in a cool place.
5. Use as and when required for decorating cakes.

Practice makes perfect!

Icing cakes calls for quite a lot of skill. It would be best to acquire this skill with a lot of practice. But in order to practice, you will need to bake a lot of cakes, which is not very practical as well as time consuming.

What you can do is get a wooden dummy cake from the market. You can prepare one lot of icing and practice with it on the wooden cake. You can remove the icing and use it all over again and continue doing so till practice makes you perfect !

Try some variety

You can achieve a whole range of beautiful effects and tastes with only slight variations in the basic ingredients.

1. **Chocolate butter icing** : For this, you will need 50 gm block of plain chocolate. Grate it. Place it in a basin over hot water and

mix in 15 ml of milk. Stir well till it dissolves and then let it cool. When cooled, mix in the plain butter icing and use.

2. **Chocolate butter icing** : This is a variation of the above variety. Dissolve 15 gm of cocoa powder in an equal quantity of hot water and let it cool. Mix in plain butter icing and use.

3. **Coffee butter icing**

For this, dissolve 15 gm of instant coffee powder in an equal quantity of hot water and cool. Mix in the plain butter icing and use.

4. **Lemon/Orange butter icing**

In the plain butter icing, mix 15 ml of lemon/orange juice and grate some of the rind. Mix well and use.

5. **Vanilla butter cream**

Add 2.5 ml vanilla essence with a tea spoon of milk and add to the plain butter icing.

6. **Walnut butter cream**

Take 25 gm. walnuts and chop them finely. Mix with some cream and add to the butter icing.

Try your hand

Let us now learn how to make a decorated cake with butter icing.

You will need —

1. **Plain, fatless sponge** - 2 mixings (to make 1 kg cake)
1 mixing refers to recipe given earlier. For 2 mixings, use double the ingredients given.
2. **For syrup**
Water - 50 ml
Sugar - 20 gm
3. **For icing**
Saltless butter or margarine - 300 gm
Icing sugar - 300 gm
Vanilla essence - 1/4 tea spoon
Strawberry essence - 1/8 tea spoon
Pink colour - 3-4 drops

The method

1. Prepare 2 mixing plain fatless sponge. Bake in a one kg. tin.

2. Place it upside down on a prepared cake base so that you get a smooth top for icing.
3. Then place the cake base along with the sponge on a turntable.
4. Slit the sponge horizontally with a sharp knife into two equal parts.
5. Prepare sugar syrup by dissolving 20 g of sugar in 50 ml water.
6. Sprinkle half of the syrup on the surface of the lower half of the sponge. This will make the cake moist from inside.
7. Prepare butter icing with 300g butter or margarine and 300g of icing sugar. This butter icing will now weigh 600 gms.
8. Divide this butter icing into two parts of 400g and 200g. Keep them in separate bowls.
9. Mix Vanilla essence in the 400g butter icing to give white butter icing and strawberry essence and red colour in 200g butter icing, to give pink butter icing.
10. Apply about 125g of white butter icing over the lower half of the sponge on which you had sprinkled sugar syrup.
11. Place the upper half of the sponge as far as possible in the same position as it was before slitting.
12. Again sprinkle the remaining sugar syrup on top of the sponge and then apply the remaining white butter icing on top and sides of the cake with a palette knife, smoothen the top and side using the palette knife.
13. Comb the sides of the cake with a cake comb to form a design.
14. Place the pink butter icing in a piping bag to which a star nozzle has been attached.
15. Pipe out a border on top and base of the cake along all the sides.
16. Then make designs on the top with the same piping bag as per your choice to make it look attractive.

4.6 CREAM ICING

This is an icing prepared with cream as the base, with sugar for taste and essence for flavour. When you think of cream, the adjectives which come to your mind are delicious, delicate, fresh. Yes, the cream icing is all of these—delicious and delicate and it must be prepared fresh for every use.

This type of icing is slightly difficult to prepare as it requires precision in beating the cream. If it is overbeaten, the cream will curdle (become curd like) and become useless for icing. But let this not scare you, all it needs is a little practice to achieve the perfect results.

CREAM ICING

You will need :

Chilled fresh cream	— 400 gm
Sugar	— 80gm (20% of cream)
Vanilla essence	— 1/4 tea spoon
Ice	— to chill

(This amount of icing is sufficient to decorate a 1 kg cake)

The Method

1. Place the chilled fresh cream, sugar and vanilla essence in a clean bowl.
2. Place this bowl over a bed of ice kept in another bowl.
3. Beat the cream and sugar and essence slowly with an egg beater for about 5 minutes and then slow the beating till the cream becomes thick and double in volume.
4. At this stage, beat slowly and check repeatedly to see whether the cream has been sufficiently beaten.

The Test

Lift the egg beater above the bowl. If the cream stuck to the beater falls down, continue beating. When the mixture does not fall off the beater, the icing is ready to be used, stop beating now!

Beware!

You have to be very careful while beating cream — if it is not whisked adequately, it will remain too thin and when piped, it will not retain the exact design. But if it is whisked for more time than required, butter will separate from the cream and you will end up with butter icing instead of cream icing!

CREAM AND FRUIT CAKE

Let us learn how to prepare a 1 kg pineapple decorated cake.

You will need

Plain, fatless sponge	— 2 mixing
Fresh cream	— 400 gm.
Sugar syrup	— 75 ml
(sugar-25 gm + Water-50 ml)	

Sugar	—	80 gm
Tinned pineapple slices	—	3
Tinned cherries	—	6
Vanilla essence	—	¼ tea spoon

The Method

1. Prepare plain fatless sponge in a 1 kg cake tin. Allow it to cool.
2. Place the sponge upside down on a prepared cake base.
3. Slit the sponge from the centre and sprinkle half of sugar syrup on the lower half.
4. Prepare cream icing with cream sugar and Vanilla essence (discussed earlier).
5. Apply 1/3rd of cream icing on the lower half of the sponge.
6. Chop finely 2½ slices of pineapple and spread over the cream on the lower half of the sponge.

7. Place the second half of the sponge over the lower half and again repeat the process with sugar syrup and cream icing.

The icing should be spread evenly on top and sides with a palette knife, till it is smooth. Do not over work or the cream would curdle.

8. Decorate the top by piping the cream icing on the top and borders of the cake. The cream is put in a piping bag with the required nozzle and then piped.
9. Cut the remaining half slice of pineapple into cubes of 1 cm and arrange neatly on top of the cake.
10. Remove seeds of the cherries and decorate the top with cherries along with pineapple cubes to give colour.
11. Store the cake in a refrigerator.

Note: All cakes decorated with fresh cream can be stored for a maximum period of 2 days in the refrigerator, as after that cream is likely to become sour.

4.7 MARZIPAN

Marzipan is a clay like paste made out of ground almonds and a mixture of sugars. The consistency, texture and colour varies, depending upon how the paste is made, but the result is used for covering cakes to give a smooth, flat surface before applying other icing over the cake. Mostly royal icing (discussed later in the topic)

is used for decoration after applying marzipan covering over a cake. Marzipan can be nutty white or yellow in colour. Bakers sometime use artificially coloured yellow marzipan for wedding cakes because it looks rich. However white marzipan is more popular. Marzipan can also be used for making marzipan fancies and colourful cake decorations by using other colours.

Marzipan tends to be oily and crumbly, when you roll it out. Because it is uncooked it is not advisable to store it for more than 3 days. If you have to store it, wrap it tightly in a greaseproof paper and put it in the cool part of the refrigerator.

During preparation of marzipan overkneading should be avoided as it tends to release more oil from it, making the marzipan sticky and difficult to roll.

Ingredients for covering kg cake

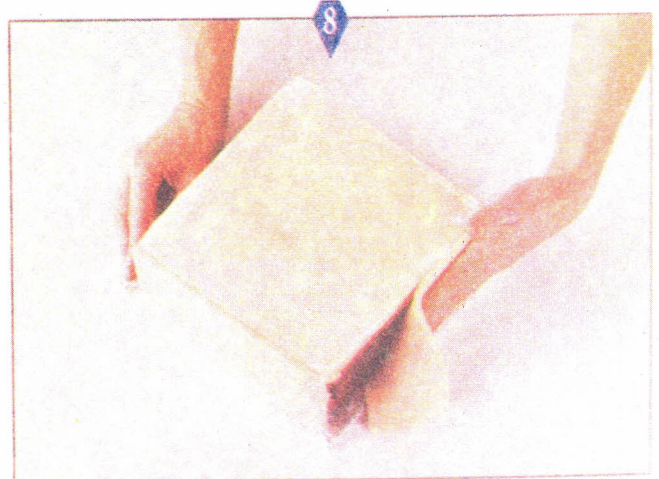
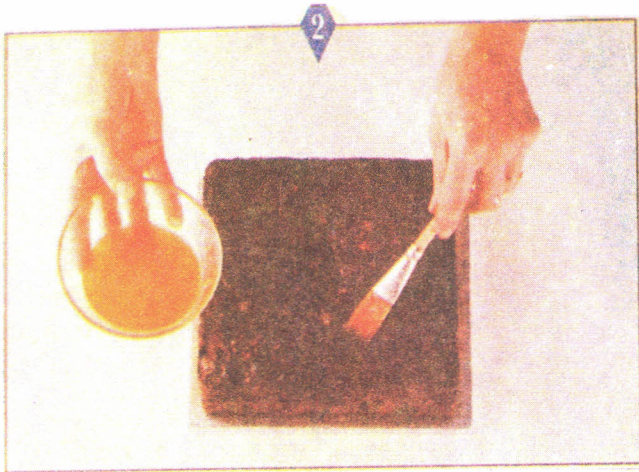
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|----------------------|---|-------------------|
| 1. Almonds | — | 225 g |
| 2. Fine castor sugar | — | 125 g |
| 3. Icing sugar | — | 125 g |
| 4. Lemon juice | — | 1 tea spoon (5ml) |
| 5. Almond flavour | — | Few drops |
| 6. Egg | — | 1 |

The Method

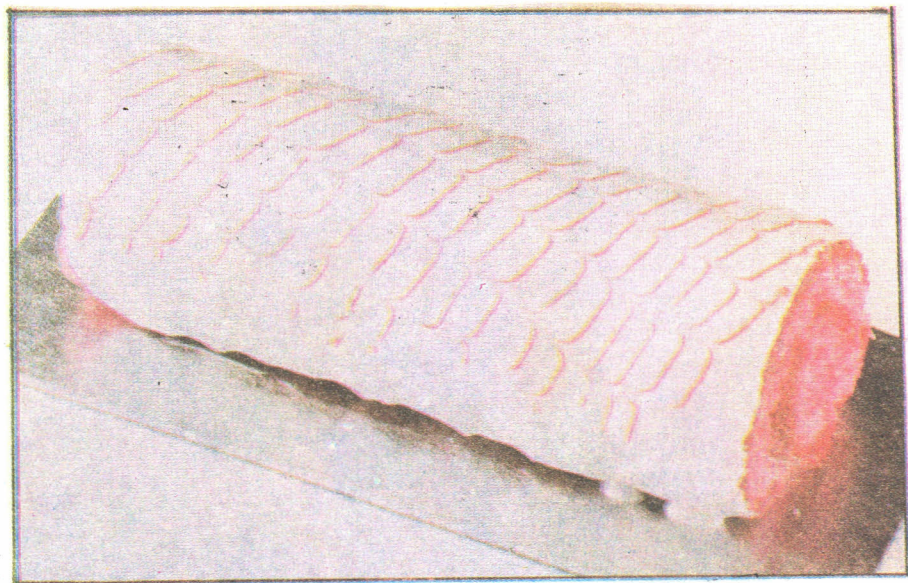
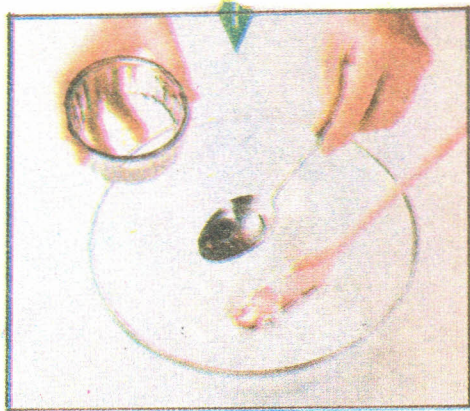
1. Grind the almonds on a marble top with a rolling pin to give a paste. Do not allow oil to come out.
2. Place the almond paste, castor sugar and icing sugar in a bowl and stir until evenly mixed.
3. Make a well in the centre and add the lemon juice, almond flavouring and slightly beaten egg to mix to a soft but firm dough, using a wooden spoon.
4. Form the marzipan into a ball. Lightly dust a surface of marble top with a little icing sugar and knead very lightly till it becomes free from cracks. Be careful not to over knead or it will release oil, and make the marzipan sticky and difficult to roll.
5. Dust a marble top with icing sugar and roll the marzipan with a rolling pin.

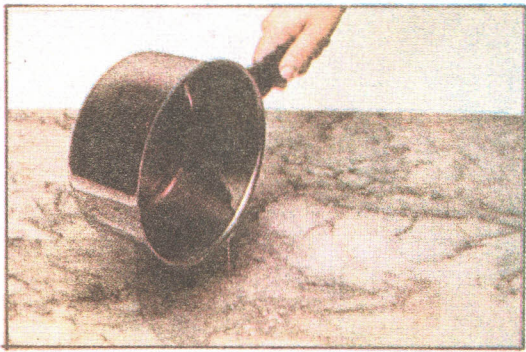
How to apply marzipan over a cake

1. Place the cake upside down on a prepared cake base and roll lightly with a rolling pin to flatten the surface.
-



Applying Marzipan

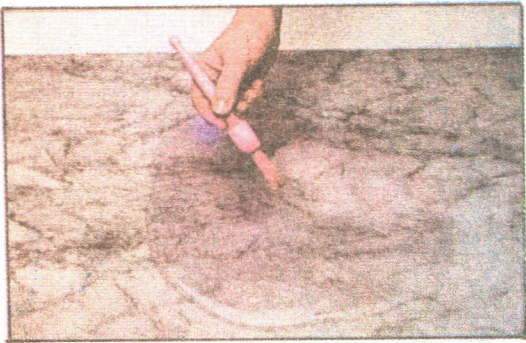




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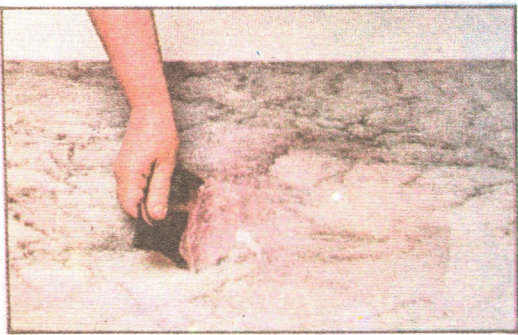
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2. Brush the top of the cake with apricot jam. Other jams will spoil the flavour of marzipan, therefore use only apricot jam. Then lightly dust with icing sugar.
3. Using 2/3rd of the marzipan roll out to a 5mm thickness to match the shape of the top of the cake, allowing an extra of 2 cm in all directions. Invert the cake onto the centre of the marzipan.
4. Trim off excess marzipan to within 1 cm of the cake, using a palette knife, push the marzipan level to the side of the cake, until all the marzipan is neat around the edge of the cake.
5. Invert the cake and again place on the cake base. Brush the sides with apricot jam.
6. Measure and cut a piece of string the length of the side of the cake. Measure and cut another piece of string the length of the side of the cake from the board to the top.
7. Roll out the marzipan to 5 mm in thickness. Cut out one side piece for a round cake and four pieces for a square cake, to match the measured string. Knead the trimming together and reroll.
8. Carefully fit the marzipan on to the side of the cake and smooth the joins with a palette knife. It is better to leave it now in a warm, dry place before piping royal icing on top, as icing will absorb less oil from the marzipan.

4.8 ROYAL ICING

As the name suggests, this is the icing used to give a 'royal' touch to cakes. It is generally used on wedding cakes and has a typically shiny look. It is easy to prepare and lends a touch of class to the end products.

SOME PRECAUTIONS

Though we say it is easy to prepare, there are some things about which one has to be extremely cautious. These are:

- i) Beat the egg whites and the icing sugar with a fork and not with an egg beater. This incorporates tiny bubbles of air into the mixture which gives it the required texture.
- ii) Never use a plastic bowl for beating as the fork will scrape tiny particles of plastic into the icing.
- iii) Keep the bowl and fork separately and completely grease free as the slightest trace of grease will break down the egg white

and prevent it from being fully aerated, no matter how hard you beat.

- iv) Use liquid colours instead of powder for colouring royal icing. It is easier to handle and will give you the exact shade that you require.
- v) Since the keeping quality of this icing is quite low, use it fresh as far as possible, else it tends to dry up.
- vi) If it has to be stored at all, wrap it up properly and put in an airtight plastic container (free from grease) and keep in a dry place.

TO MAKE ROYAL ICING (for 1kg cake)

You will need

Egg white	— of 2 eggs
Icing Sugar	— 450 gm
Lemon Juice	— 1 lemon

The Method

1. Sieve icing sugar twice and keep in a clean thali.
2. Separate the egg yolks from the egg whites and keep the egg whites in a clean metal bowl.
3. Break the egg white with a palette knife which should be clean and completely grease free.
4. Now gradually add the sieved icing sugar to the egg white, half a table spoon at a time. Beat the egg white well with a fork, between each addition of icing sugar.

Do not rush through the process

5. When the mixture becomes thick, pull the fork upwards and test. If the mixture stands in a peak and does not fall down, it is ready. Now add the lemon juice and beat slowly. If the mixture becomes too wet add a little more icing sugar and beat again with the fork.
6. This icing mixture is used both for applying on the cake as a base and for piping into decorations.

For the cake

The mixture should be slightly thinner so that a smooth finished surface can be obtained.

For piping

Add some more sugar and beat again so that firm designs are retained when piped out onto the cake.

4.9 GLACE ICING

Glaze icing is quickly made from icing sugar and warm water. No cooking is involved in making it. It is suitable for small cakes, and iced tea fancies. This icing sets very quickly and therefore should be used immediately.

Ingredients: (for 1kg cake)

- | | |
|------------------------------|------------------|
| 1. Icing sugar | — 250g |
| 2. Warm water | — 4 table spoons |
| 3. Food colouring (optional) | — few drops. |

Method

1. Sieve the icing sugar into a clean bowl and using a wooden spoon gradually stir in water to obtain the consistency of thick cream.
2. Beat until white and smooth, and the icing thickly coats the back of the wooden spoon. Colour with a few drops of food colouring, if desired.
3. If you desire chocolate glaze icing, add 2 table spoons of cocoa powder into the icing sugar before beating and adding water.
4. Use immediately to cover the top of the cake. It should be just poured and the cake tilted. The icing will set.

4.10 FONDANT ICING

Fondant is used for both icing cakes and making cake decorations. It has a softer, more moulded look than a stiff royal icing, and has become popular among cake decorations. This icing is prepared firm and stored in this firm state. When it is required to be used it is thinned down and reheated.

Ingredients: (for 1kg cake)

- | | |
|-------------------|-----------------|
| 1. Grain Sugar | — 450gm |
| 2. Liquid Glucose | — 1 table spoon |
| 3. Water | — 150 ml. |

Method

1. Put sugar, water and liquid glucose in a pan and heat over a gas burner.
2. Stir occasionally.
3. Allow it to boil and stop stirring once it starts boiling.
4. When the mixture reaches 240°F (160°C), stop cooking. You have to check the temperature with a sugar thermometer.
5. Pour the syrup over a wet marble top in a spiral motion. Allow the mixture to cool. As it cools the syrup starts turning white.
6. When the syrup has completely cooled, take a damp metal scraper and begin lifting the edges of the syrup and folding them in towards the centre.
7. Then work in figure of 8 motion, carry this on for about 5 minutes, till it becomes glossy and viscous.
8. After that, stir the mixture with a long handled wooden spoon. It will become easier to stir.
9. The mixture will gradually become white and crumbly. Moisten your hands and work the crumbled mixture into a ball. Knead it for about 10 minutes till it becomes smooth.
10. Wrap it in a cling film and store it in a sealed container in a fridge. It will keep for about four weeks.

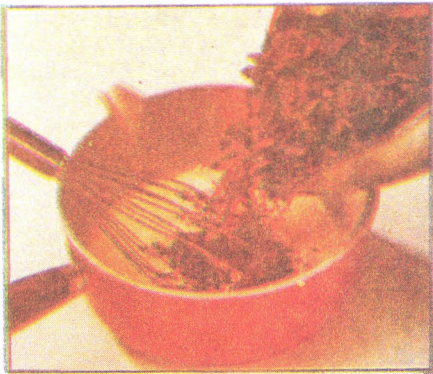
Fondant can be rolled on a marble top with little icing sugar in the shape of the cake. Cover the cake with it after rolling. It can also be thinned down by adding a little water and cooked on a slow fire. When it melts and has pouring/running consistency it can be poured over the cake and allowed to set.

4.11 CHOCOLATE ICING

This is a smooth glossy icing, and is made with plain or milk chocolate. This can be used all by itself or along with butter icing. Generally chocolate butter icing is used as a filling in between the cake. This is then poured over the surface of the cake and allowed to set. The finish is quite glossy.

Ingredients: (for 1 kg cake)

- | | |
|-------------------|--------|
| 1. Milk Chocolate | — 80 g |
| 2. Fresh Cream | — 60 g |
-



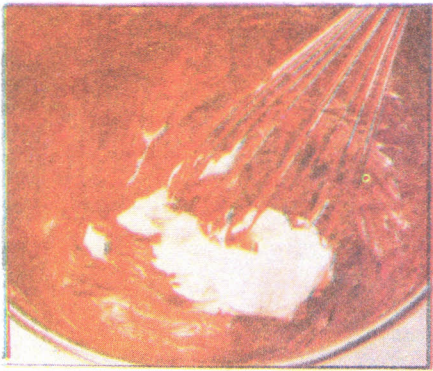
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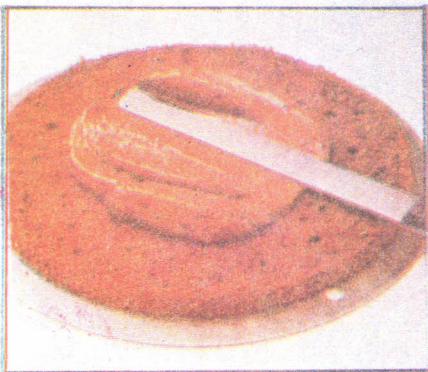
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4



5



Chocolate Cake

Method

1. Break up the chocolate into small pieces and place in a medium sized thick bottom sauce pan with the cream.
2. Heat gently stirring occasionally until the chocolate has melted and the mixture is smooth.
3. Allow the icing to cool until it is thick enough to coat a wooden spoon. Now pour over the cake and tilt the cake in all direction to coat evenly. Allow to set (refer plate).

INTEXT QUESTIONS 4.2

1. In butter icing the proportion of butter and icing sugar is _____.
2. If you want to reduce the cost, _____ can be used instead of butter in preparing butter icing.
3. In cream icing the amount of sugar should be _____ % of the amount of cream.
4. A cake decorated with cream icing can be stored in a _____ for a maximum period of _____ days.
5. Marzipan is a clay like paste made out of _____ and _____.
6. If you knead too much in preparing marzipan, it will become _____ and will be _____ to roll.
7. Royal icing is normally used on _____ cake.
8. Glace icing is normally suitable for _____ cake, and _____.
9. Glace icing should be used immediately as it _____ quickly.
10. i) What is fondant icing ?
 ii) How do you store fondant icing?
 iv) Explain the preparation and use of chocolate icing?
 v) What is the difference between cream icing and glace icing?

4.10 ANSWERS TO INTEXT QUESTIONS

- 4.1 1. (C) 2 (D) 3 (A) 4 (B) 5(A)
- 4.2 1. 1:1
 2. Margerine
 3. 20%
 4. Refrigerator, two

5. Almonds, Sugars
6. Sticky, difficult
7. Wedding
8. Small cakes, iced tea fancies
9. Sets
10. (i) to (iv) Please refer to the text.

PASTES OR MIXTURES

5.1 INTRODUCTION

The various pastes or mixtures are used as the base in the preparation of sweet and savoury items in bakery and confectionery. There are five basic pastes. Once you have learnt to make these basic pastes, you can prepare hundreds of dishes from them. The basic paste is prepared and then finished off in different ways, using different ingredients to get varied end products.

In layman's language the term pastry generally refers to decorated sponge cakes of small sizes but in confectionery the word pastry has a much broader perspective. It is synonymous with paste.

5.2 OBJECTIVES

After reading this lesson you will be able to :

- list the basic pastes;
- demonstrate the methods of making these pastes;
- derive variations or a few important products from them;
- enlist precautions to be taken while making these pastes;
- identify common faults likely to occur and suggest possible remedies.

5.3 THE BASIC PASTE

The basic five pastes are

- a) Short crust paste
- b) Flaky paste
- c) Puff paste
- d) Choux paste
- e) Danish paste

These are certain general paste, which if kept in mind and followed during preparation of most pastries, would guarantee good results. So before we learn the basic procedures that we have to follow for making different pastes let us know about certain general rules for successful pastry making.

5.4 TO MAKE A GOOD PASTE

In order to make a good pastry, there are some do's and don'ts which one must follow. Let us see what these are.

DO:

1. Work in a cool place and keep your hands cool.
2. Sift the flour and salt after measuring. Why ? It incorporates air and helps to lighten the pastry.
3. Use cold water and a round bladed knife for mixing.
4. Work quickly and handle the pastry as little and as lightly as possible.
5. Use lemon juice while making puff or flaky pastry. Lemon juice strengthens the gluten in flour and gives a lighter and crisper pastry.
6. Chill the pastry for 15-30 mts. after making. Can you give a reason why ? Chilling makes rolling easier and even.
7. Roll the pastry rightly and evenly with short strokes, lifting the rolling pin between each stroke.
8. Always roll away from yourself.
9. Use very little flour for rolling and use a pastry brush to remove any excess flour.
10. Use a fairly hot oven for baking pastries—the high temperature makes the starch grains burst which then absorb the fat. Unless the heat is high enough to act on the flour in this way, the melted fat runs out and leaves the pastry heavy and tough. A high temperature is also necessary to create steam within the dough which makes the pastry light.
11. Keep the work area and yourself clean in order to avoid contamination by dirt, germs, insects, rodents, etc.,
12. Insist that every person associated with food preparation or sale should maintain the highest levels of hygiene, when you set up your own bakery.

DO NOT

1. Use tap/warm water for mixing.
 2. Use too much water. Can you say why? It will make the pastry hard. The amount of water given in the recipe is approximate
-

because flours vary in the amount of water which they absorb.

3. Over work the pastry.
4. Roll off the edge of the pastry while rolling. Can you say why ?
The air in the pastry will get pressed out.

5.5 LEARN THE PASTES

1) Short crust paste

The word 'short' in the bakery sense means friable or easily breakable. (The texture as that of matthi). It is the direct opposite of tough and elastic. It is a pastry made with shortening so it crumbles into small pieces when pressed. All fats are shortening agents because they reduce the extensibility of gluten according to the amount used in a given weight of flour and the method of preparation.

Short crust paste is a mixture of flour, fat, sugar, baking powder and water or milk or egg. The method for preparation of short crust has already been discussed in the previous chapter on 'Biscuits'. If you do not remember it, go back and read it once again.

2. Flaky Pastry and Puff Pastry

The goods produced from both these pastes are light and fluffy with some shortness in the pastry so that it is crisp and not tough. When making such a paste your object is to build a structure of fat and paste so that when heated in the oven it will expand and lift evenly to produce products with short eating properties.

Similarities : for both flaky pastry and puff pastry you need strong flour with good quality gluten. Salt is added for taste while lime juice is an acidic medium which strengthens the gluten. Fat is added for layers. Cold water is added to maintain the dough temperature so that the fat does not melt. The derivatives or the products you can make from both these pastes are same with slight variation in texture quality.

Differences

- | | |
|---|--|
| 1. Puff pastry contains fat and flour in the ratio of 1:1 | 1. Flaky pastry contains 3/4 of fat to every kilogram of flour. |
| 2. All fat is folded in at one rolling | 2. Fat is divided into 3 parts and it is folded in three rollings. |

- | | |
|----------------------------------|------------------------------------|
| 3. Number of layers are more | 3. Number of layers are less |
| 4. There are four empty rollings | 4. There is only one empty rolling |

TO MAKE FLAKY PASTRY

Ingredients required:

Flour	—	225 g
Margarine	—	175g (150g+25g)
Lemon Juice	—	½ lemon
Salt	—	5g
Cold Water	—	to mix

Method :

1. Sieve flour and salt together.
2. Rub 25g margarine with finger tips on the sieved flour, as already explained in "pastry dough".
3. Add lemon juice to a little cold water.
4. Make a soft dough using lemon water and prepared flour, knead it well so that the gluten is activated and the flour becomes stretchable.
5. Make a ball of the dough and keep on table top covered with a moist duster.
6. Let it rest for ½ hour.
7. Divide the remaining fat into 3 equal parts of 50g each and keep in the refrigerator for cooling.
8. Sprinkle little dry flour on the table top and the rolling pin. Roll out the dough evenly into a 20"x10" rectangle using the rolling pin.
9. Divide the 20" side into three equal parts by marking lightly with a palette knife.
10. Take 50 g fat in a bowl and cream lightly using a wooden spoon.
11. Spread it properly on two adjacent parts of the rectangle. Leave ½ inch border on the outer sides so that fat does not come out while rolling.
12. Fold the empty side first and then fold the remaining 2/3rd part over the folded part so that you get three layers.
13. Wrap this in a polythene paper and keep in the freezer for 15-20 mts.



1



2



3



4



5



6



14. Repeat from step no. 8 to 13 and fold in the other two parts of fat.
15. Roll again to the same size and divide the rectangle into four equal parts and mark.
16. Fold the outer two parts over the inner two parts and again give a fold from the centre so that you get four layers. This fold is known as **book fold**.
17. Cover in a polythene and store in a fridge.
18. Use as required.

TO MAKE PUFF PASTRY

Ingredients required:

Flour	—	225g
Margarine	—	225g (200+25g)
Lemon Juice	—	from ½ lemon
Salt	—	5g
Cold Water	—	to mix

Method :

1. Sieve flour and salt together.
2. Rub 25g margarine (using finger tips only) into the sieved flour.
3. Add lemon juice to a little cold water.
4. Make a soft dough using lemon water and prepared flour. Knead it well to develop gluten and make the dough elastic.
5. Make a ball and keep on the table covered with a moist duster for 30 minutes. This is called resting the dough.
6. Keep 200 g of the left over margarine in refrigerator till required.
7. Using a rolling pin and dry flour roll into a rectangle 20"×10" as explained for flaky pastry.
8. Cream all left over 200g margarine with a wooden spoon.
9. Divide the rolled rectangle into two equal halves marking lightly with palette knife.
10. Spread the creamed fat on half of the rectangle with the help of a palette knife. Leave half an inch on the outer sides, to avoid fat coming out in next rollings.
11. Fold the empty side onto the fat covered one and press the edges lightly.

12. Keep in the freezer for about 15-20 minutes to harden the fat.
13. Roll again to the same sized rectangle and divide into 4 parts.
14. Give a book fold as explained earlier in point no. 16 of flaky pastry.
15. Cover with a polythene and keep in the freezer for 20 minutes.
16. Roll again into a rectangle and divide into three parts.
17. Give any empty folding to get three layers. Keep in freezer for another 20 mts.
18. Roll again into a rectangle of 20"x10" and divide into four.
19. Give another empty book fold and keep in freezer covered with a polythene.
20. Roll again and divide into three equal parts.
21. Fold to get three layers.
22. Keep in a refrigerator covered with a polythene till required.

WHAT WENT WRONG?

The common faults which could occur in these pastries due to wrong amount or type of ingredient used or improper handling during the making may be

- 1) Too few layers in the pastries
 - a) insufficient resting and chilling in between different rollings.
 - b) Too heavy rolling which could result in breaking of fat and flour layers.
 - (c) Warm fat is used during making.
 - (2) Fat running out during baking.
 - (a) Too low baking temperature.
 - (b) Poor quality flour.
 - (3) Hard and tough pastries.
 - (a) Too much water using during mixing.
 - (b) Dough is over-kneaded or over rolled with too much flour.
 - (c) Baked in too cool an oven.
 - (d) Warm fat has been used.
 - (4) Pastry unevenly risen
 - (a) The fat has not been mixed in evenly.
 - (b) Rolling or folding has been incorrect.
 - (c) Not rested long enough before use.
-

In case you find any of these defects in the pastry made by you, you can easily. Correct it the next time. Do not be disheartened, pastry making is an art which needs a lot of practice. The more you practise, the more perfect will be the pastry you bake!

INTEXT QUESTIONS 5.1

1. State one major differences between flaky and puff paste.
2. Name all basic pastes.
3. Mark whether true or false.
 - a) Puff and flaky pastes always give different products.
 - b) The texture of products made from short crust paste is similar to that of Namkeen Mathi.
 - c) A cool area is required for preparation of puff paste.
 - d) The amount of fat used in flaky paste is more than that in puff paste.
 - e) Lemon juice is added for taste.

5.7 VARIATIONS OF PUFF AND FLAKY PASTE

1. Vegetable Patties

Puff/Flaky paste	—	1 Mixing
Potatoes	—	250g
Onion	—	250g
Peas	—	125g
Ginger	—	25g
Garlic	—	10g
Green chilli	—	10g
Cumin seeds	—	5g
Refined Oil	—	30ml
Salt	—	to taste
Amchur	—	5g
Egg	—	1 No.
Refined Oil	—	30 ml

To make the stuffing

1. Wash, boil and peel potatoes and mash them.
2. Chop onion, ginger, garlic and green chilli.
3. Boil shelled peas.

4. Heat oil in a karahi, add cumin seeds and cook till light brown.
5. Add chopped onion, fry lightly.
6. Add chopped ginger, garlic salt and green chilli and fry for two minutes.
7. Add mashed potatoes and peas and mix well.
8. Remove from fire and add amchur powder and cool.

For Making patties

1. Roll the flaky/puffy paste to 1/4" thickness using a rolling pin and flour. Try and shape a rectangle.
2. Trim the sides to get a perfect rectangle.
3. Mark with a palette knife to get 8 equal squares of 4" x 4" size.
4. Coat the sides of each square with a beaten egg.
5. Place some of the filling in the centre of each square.
6. Fold the square to cover the stuffing. Either fold diagonally to form a triangle or lengthwise to get a rectangle.
7. Press the sides lightly to seal.
8. Place on a greased baking tray with a 2 inch gap between each pattie.
9. Brush the top with beaten egg.
10. Bake in a preheated oven between 200 to 210°C
11. Remove from oven and cool on a cooling rack.
12. Pastries are served warm and should be stored in a hot case before selling. These can be stored only for 24 hrs at the most as the filling is likely to get spoilt. It is suggested that the paste (flaky or puffy) and the stuffing should be made and kept in the fridge. Pastries can be prepared in lesser numbers so that they do not get spoilt.

Note:- You can use different stuffings, e.g. minced meat, chicken, mushrooms, etc. instead of vegetables.

2. Mushroom Vol-au-Vent

Ingredients :

- | | |
|------------------|------------|
| Puff/flaky paste | — 1 Mixing |
| Fresh mushroom | — 50g |

Butter	— 10g
Flour	— 10g
Milk	— 100 ml
Salt	— to taste
White pepper	— 3g
custard powder	— 2g
Egg	— for wash

Method :

For filling

1. Heat butter in a thick bottomed saucepan on slow heat.
2. When melted, add flour and keep stirring with a spoon till you get a cooked aroma (as for Halwa). Approximately 3-4 minutes will be taken. The colour of the flour should remain light cream and should not get browned at all.
3. Add warm milk slowly, stirring all the time, to avoid lump formation.
4. Remove from fire after cooking for a few minutes.
5. Add salt, white pepper and mustard powder.
6. Add boiled and chopped mushrooms.

For Vol-au-vent

1. Roll as for pastries.
 2. Cut half the rectangle into rounds of 2 inch diameter, with a biscuit cutter.
 3. Cut the remaining half with a dough nut cutter so that you have a hole in the centre.
 4. Egg-wash the first complete round and then place the rounds with hole on top of them.
 5. Egg-wash the top round and bake in a greased baking tray at 200°C for 15-20 minutes.
 6. Remove, cool on a cooling rack.
 7. Fill the hole with the mushroom filling using a teaspoon.
 8. The empty vol-au-vent cases can be stored for 3 days but after filling their shelf life is reduced to 24 hrs.
 9. These are served hot and should be stored in hot cases before selling.
-

3. KHARA BISCUITS

Ingredients:

Puff/flaky paste - 1 Mixing

Method:

1. Roll the paste to ¼" thickness.
2. Cut lengthwise strips of ¾" breadth and 3"-4" length
3. Twist and keep on a greased tray.
4. Bake at 200°C for 15-20 mts.
5. Cool on a cooling rack.
6. Store in an airtight container. These can be stored for 4-5 days and are served cold.

4. CHEESE STRAWS

Ingredients :

Puff/flaky paste	—	1 Mixing
Grated cheese	—	225g
Seasoning	—	to taste

Method:

1. Roll the paste to ¼" thickness.
2. Apply egg wash on top .
3. Sprinkle grated cheese and level and press slightly.
4. Cut strips of ¾" by 4".
5. Twist and place on a greased tray.
6. Bake at 200°C for 15-20 mts
7. Cool on a rack and store in an airtight container for 4-5 days.
8. Served cold.

5.8 CHOUX PASTE

('Choux' is pronounced as 'shoe')

It is made by boiled paste method. Fat and water are boiled together and then all the flour is added at once and cooked. But eggs should be added only after the mixture has been cooled otherwise the egg proteins will coagulate. Air is entrapped in the mixture because of the heating of eggs. Gluten and albumin form a network in the pastry and

do not allow the steam formed to escape. The products made from choux paste are very light and have big hollow spaces in between.

To make the Choux paste

Ingredients :

Water	—	250 ml.
Butter	—	125g
Flour	—	150g
Eggs	—	5

Method :

1. Put butter and water in a thick bottomed degchi.
2. Heat and bring to boil.
3. Add sieved flour, all at one time, mixing vigorously with a wooden spoon.
4. Keep stirring and cook on slow fire until the mixture leaves the sides of the pan.
5. Remove from fire and allow it to cool to room temperature.
6. Put the cooled mixture into an enamel bowl and add eggs one by one mixing nicely all the time.
7. Cream with a wooden spoon, until the mixture becomes firm enough to pipe, but not too soft.
8. Use as required.
9. If the mixture is required to be stored for a few hours before baking it should be wrapped closely in grease-proof paper and kept in a refrigerator.

5.9 WHAT CAN GO WRONG?

1. The pastry is too thin:
 - a) the flour and liquid have not been cooked enough
 - b) the mixture has not been beaten sufficiently
 - c) the liquid has been allowed to cool too much before adding the flour.
2. The pastry is too thick
The liquid has been boiled for too long
3. Close and solid texture after baking :
 - a) it has not been beaten enough

- b) it has been cooked in too hot an oven.
- c) it has been cooked in too cool an oven.

5.10 VARIATIONS OF CHOUX PASTE

(1) Chocolate and eclairs

Ingredients :

Choux paste from	—	125g flour
Fresh cream	—	300g
Chocolate fondant Icing	—	30g
Sugar	—	60g
Vanilla essence	—	a few drops

Method :

1. Put the choux paste in a piping bag with ½" size plain nozzle.
2. On a greased baking tray, pipe mixture into finger shapes of 4" length.
3. Bake at 210°C for about 20-25 minutes.
4. Then open the door of the oven and bake for another 10 minutes to avoid shrinking which takes place if the pastry is removed suddenly from the oven.
5. Cool on a cooling rack.
6. Whisk cream with sugar in an enamel bowl till thick.
7. Add a few drops of essence.
8. Cut one end of the cooled eclair and fill with whipped cream using a piping bag and a thin nozzle.
9. Coat eclairs on top with chocolate fondant icing.
10. Allow Icing to set and serve cold.

Note:

1. For convenience chocolate fondant can be replaced with chocolate glaze icing.
2. Coffee eclairs can be produced by substituting coffee powder for cocoa powder.
3. The recipes for both chocolate fondant icing and chocolate glaze icings are explained in the chapter on **Icings**.

The recipe will give approximately 20-22 eclairs.

(2) Profiterole suchard**Ingredients :**

Chouxpaste	—	from 125g flour
Fresh cream	—	300g
Chocolate sauce	—	½ Mixing
Nibbed Almonds	—	30g
Vanilla essence	—	a few drops

Method :

1. Pipe the choux paste on a greased baking tray into small roundels of One Rupee coin size using a plain nozzle.
2. Bake in the same manner as eclairs.
3. Cool on a rack.
4. Punch a hole equivalent to the size of the top of small nozzle.
5. Whisk cream and sugar after adding essence till thick.
6. Fill this cream into the profiteroles.
7. Coat with chocolate sauce.
8. Decorate with nibbed almonds.

To make Chocolate Sauce**Ingredients :**

Grain Sugar	—	225g
Cocoa powder	—	30g
Water	—	180 ml

Method:

1. Put all the ingredients in a thick pan and bring it to boil.
2. Allow to simmer on a slow fire for about 40-45 minutes.
3. When the sauce thickens take it off fire and cool.
4. It should coat thickly the back of a spoon when cold.
5. Store in an airtight bottle and use as required.

3. Cream Puffs

Chouxpaste	—	from 125g flour
Cream	—	250 ml
Sugar	—	50g
Vanilla	—	a few drops
Icing sugar	—	25 gm

Method :

1. Grease the baking tray.
2. Put the choux paste in a piping bag and with a thin star nozzle, pipe resettes leaving enough space in between.
3. Bake as for eclairs.
4. Cool completely on a wire rack.
5. When cold, slit horizontally from the centre.
6. Pipe whipped sweetened cream on the base and top part.
9. Serve cold dusted with icing sugar.
10. Store in refrigerator only for a few hours.

5.11 DANISH PASTRY

This pastry is made from a yeast dough, which is enriched with layers of butter. As yeast raised doughs require special method for preparation, this pastry will be explained with other yeast goods in another lesson.

INTEXT QUESTIONS 5.2

1. Select the right answers:
 - (i) While baking vegetable patties fat runs out because
 - a) Too much fat has been added.
 - b) Fat added is not of the right type
 - c) Oven temperature is less
 2. When khara biscuits are not very short and flaky in texture
 - a) Less quantity of fat has been added
 - b) Fat used was not cold
 - c) Improper rolling has been done
 3. Eclairs shrink in size due to
 - a) Insufficient cooking of mixture
 - b) Removing too quickly from oven
 - c) Less number eggs used.
 2. What do you understand by the turn Book fold? Illustrate your answer.
 3. Why do we need to chill the puff or flaky paste between different rollings?
-

ANSWERS TO INTEXT QUESTIONS

- 5.1
1. Puff pastry has fat and flour in the ratio of 1:1 whereas flaky pastry has it in the ratio of 3/4:1
 2. Refer text
 3. (a) F (b) T (c) T (d) F (e) F
- 5.2
1. (i) (e) (ii) (b) (iii) (b)
 2. Refer text
 3. Refer text
-

BREADS & BREAD ROLLS

6.1 INTRODUCTION

Think of eating and you think of bread. It can be in the form of a loaf baked in a bread form or a family moulded bread baked open on a baking tray. Bread includes rolls, buns and bread sticks. The ready and mouth watering aroma of a well baked bread is a very appetising sight. No continental meal is really complete without bread as an accompaniment. Bread, as we already know, is a dough of wheat flour and water, seasoned with a little salt, raised by the action of yeast and then baked in an oven. But there can be many variations to this basic bread. We can use different types of flours, e.g. whole meal flour, barley flour etc. We can also make spiced or sweetened, flavoured or enriched breads. In this chapter we are going to discuss different types of loaves and rolls.

6.2 OBJECTIVES

After reading this lesson, you will be able to :

- explain the theory related to bread making process;
- list the various raw materials used;
- explain their suitability and the purpose they perform in bread making;
- understand the common terms used in bread making process;
- describe variations like hamburger roll and fruit bun;
- describe the method for preparing plain basic bread;
- derive variations like milk bread, brown bread;
- identify common faults likely to occur in bread products, their causes and suggest remedies for the same.

6.3 BASICS OF BREAD MAKING PROCESS

Before you learn to make bread you must know the actual activity that happens in the dough. The four essential ingredients in bread are :

- flour
 - yeast
 - water
 - salt.
-

Sugar, fat and eggs are often added for nutritional value, better flavour, colour and texture.

Breads are made by a fermentation process in which yeast, a one-cell plant, feeds on sugar and converts it into carbon dioxide gas, water and alcohol.

Yeast



Sugar (*from flour*) → Carbon-di-oxide (*gas*) + Water + alcohol

The sugar required for the action of yeast comes from flour itself which contains 1% sugar, and any sugar added during preparation. The fermentation process requires sugar and proper conditions of temperature and humidity. It then results in gradual expansion of dough and finally its doubling in volume.

In addition to yeast multiplication and activity, the gluten of flour must be developed. It is the gluten which gives dough elasticity or stretchability which is necessary for its rising in volume. Gluten is formed from the proteins present in flour, on addition of water and salt. The process of kneading (discussed in detail later) is accomplished by considerable manipulation by hand or by machine. As bread rises during the fermentation process, the gluten stretches to form the cellular structure of the dough which should be light and porous.

Let us now discuss the **raw materials** used in bread making and their role in the whole process.

Although **Whole wheat flour** contains protein, certain qualities of wheat have higher percentage of protein. This type of wheat flour is more suitable for bread making as it develops stronger gluten.

Both **fresh compressed yeast** and **dry yeast** can be used for bread making but fresh yeast gives better results. Dry yeast, if used, should be used in 50-70% quantity of the fresh one as it is more concentrated. Also activate the dry yeast before using.

To activate yeast : Add measured quantity of yeast to little lukewarm water and dissolve properly. From the weighed quantity of flour add some to the dissolved yeast so that you get a thin paste consistency. Keep this in a warm place for 10-15 minutes. If air bubbles start coming out, yeast is ready for use. If after half an hour also, no bubbles are visible the yeast is dead and inactive and should not be used.

While sugar aids in rising of the dough, salt retards or controls gas formation. What will happen there is too little or no salt in the dough?

The dough would rise very quickly and bread will not be of good quality.

The **liquid** used for breads and rolls may be milk or water. The liquid dissolves salt, sugar and yeast and hydrates the flour. Milk is more often used in powder form as quality can be regulated better and storage is easier.

Eggs add colour and flavour, emulsify fats and produce a bread or roll of higher protein content.

Solid **shortenings (fats)** in the form of butter, margarine or hydrogenated fats (vanaspati ghee) act as tenderizers.

Other ingredients like cheese, onions, garlic, raisins, currants, candied fruits and peels are often added to produce different types of bakery products.

All ingredients should be weighed in correct proportions before starting. Bakery is more of a science as it is based on scientific principles, so exact proportions and right procedures must always be followed to produce good baked products. Right temperature for the dough is 27°C or 80°F. Depending upon the atmospheric temperature you have to regulate the dough temperature by using cold water in very hot weather, tap water in normal conditions and lukewarm water in cold seasons.

Bigger professional ovens have proving chambers attached to them, where the conditions of temperature and humidity are controlled as per the requirement of yeast. The temperature in these chambers is controlled by production of steam which also keeps the crust from drying out. If proofers are not available rolls may be proofed successfully by placing the dough on racks, near an oven, but away from air drafts.

INTEXT QUESTIONS 6.1

1. Fill in the blanks :

- a) The four essential ingredients required for bread making are,, and
 - b) A living organism used in bread making process is
 - c) Gluten is formed from present in flour.
 - d) The process of helps in gluten development.
 - e) The liquid used for bread making can be or
-

- f) Fat acts as a in bread.
 - g) Fermentation is a process in which acts upon to form, water and
2. Tick mark (✓) the right answer :
- a) Fresh compressed yeast/dry yeast gives better bread products.
 - b) Exact/Approximate weights of raw materials should be used for making bread rolls.
 - c) Salt/sugar helps in increasing the yeast activity.
 - d) Wheat containing a high/low percentage of protein is suitable for bread making.
-

6.4 TERMS USED IN BREAD MAKING

There are certain terms which are used very frequently in describing the process of bread making. All those terms are explained below so that you can be familiar with these words and can also understand fully what they really mean.

- 1) **Dough** : A mixture of flour and liquid made into a stiff paste.
- 2) **Mixing** : Add the liquid to the dry ingredients slowly and mix with a wooden spoon or with one hand until a dough is formed. If using a machine mixer, mix on the slowest speed until the mixture forms a dough.
- 3) **Kneading** : To knead, turn the dough on to a clear work surface. Fold the dough in half towards you, then push down with the palms and heels of your hands and away from you. Give the dough a quarter turn and repeat the folding and pushing across, developing a rocking rhythm. This action develops the gluten in the dough to give a high volume loaf. At first the dough will be soft and sticky, but as the gluten develops, the dough will become smooth, elastic and no longer sticky. There is a temptation initially to add more flour to the sticky dough, but avoid this as it will make the finished loaf hard and tough. Kneading by hand is hard work and it takes about 10 minutes for a brown or whole meal bread.

For an electric mixer with a dough hook, increase the speed a little after the dough is formed, kneading will take about half the time of hand kneading.

4. **Fermentation** : After the dough has been kneaded properly, it is kept for fermentation. Fermentation is a process whereby yeast feeds on sugar and produces carbon dioxide gas and alcohol. Carbon dioxide raises the volume of the dough and alcohol imparts a peculiar flavour. The ideal temperature for fermentation of the dough should be 78° to 80° F (25-30° C).
5. **Rising** : Rising takes place during fermentation. The dough when kept at a suitable temperature will rise to double its original volume. Place the dough in lightly oiled bowl to avoid sticking and cover with a moist duster. Duster should not be too wet. It should be squeezed well before using for covering the dough.
6. **Knocking back** : Punch the risen dough to deflate it, then knead until firm. This distributes the air bubbles in the dough to ensure a more even texture. Large bubbles of gas would make large holes in the finished bread if knocking back is not done.
7. **Prooving** : After shaping, the dough is left to rise again until double in size, light and puffy. It must be covered as for the first rising.
8. **Glazing** : After final fermentation is complete and the rolls or buns are ready to be baked they are coated with different finishes to improve their appearance. This is called glazing. The glaze is applied on the products with the help of a pastry brush.
 - a) Milk : gives a slightly crusty, shiny finish.
 - b) Egg : slightly beaten egg is used. It gives a golden, soft finish. One table spoon water can also be added to egg while beating.
 - c) Flour : gives a soft finish. Lightly brush shaped dough with dry flour.

6.5 DIFFERENT TYPES OF BREAD AND BREAD PRODUCTS

There are many variations possible to a simple basic dough. Variations can be in the form of shapes or by addition or alteration of certain ingredients. By dividing dough into small and easily manipulated pieces, you can get a wide range of bread rolls or buns. Similarly, you can take the bread in a closed tin, open tin or on a tray to change its shape. By adding certain sweet or savoury ingredients you can radically alter the bread's taste and texture.

The breads and rolls we are going to discuss in this chapter are :

- | | |
|--------------------|----------------|
| 1. Bread rolls | 4. Basic Bread |
| 2. Hamburger rolls | 5. Milk Bread |
| 3. Fruit buns | 6. Brown Bread |

1. BREAD ROLLS

These are generally eaten with continental meals to provide the required cereal.

Ingredients needed

Flour	—	225 g
Milk powder	—	5 g
Salt	—	2.5 g
Sugar	—	10 g
Fresh yeast	—	10 g
Butter or Margarine	—	10 g
Egg	—	1 (for eggwash)

Method

1. Sieve flour and milk powder together on to a marble table top. Make a bay in the centre of the sieved flour.
2. Dissolve yeast in a little (about 40 ml) water in a mug.
3. Dissolve salt and sugar separately in another mug using about 40 ml water.
4. **Mixing the dough** : Pour yeast solution in the centre of the flour and mix with one hand. After the whole liquid has been mixed with flour add sugar and salt solution mixing in the same manner.
5. **Adjusting the consistency** : Add more water if required so that a soft shaggy mass is formed. The dough at this stage should neither be soft nor too hard. If it feels very dry and striff, mix in a little more water; if it is too loose and wet, work in some more flour.
6. **Kneading** : Once the consistency of the dough has been corrected, you have to knead it. The process of kneading has already been explained earlier.
7. **Addition of fat** : Cream butter or margarine on table top, using the heel of your hand. Mix the fat into the dough and knead again for about 5 minutes to mix fat properly.
8. **First fermentation** : Place the dough in a greased bowl and cover with a moist duster and keep the bowl in a warm place,

until the dough has doubled in bulk. The time required will vary from 45 minutes to 1½ hours.

To test that the dough has risen enough, press a finger into it. If the depression remains, filling in only very slowly, the dough is ready.

9. **Knock-back** : Turn the risen dough out on the work surface and punch it to reduce the volume. Then knead it until firm. This distributes the air bubbles in the dough and gives better texture to the finished products.
10. **Second fermentation** : Keep the dough again in the bowl, covered with a moist duster till the volume of the dough is doubled again. This time it will take 35-50 minutes.
11. **Second knock-back** : Knock-back as explained at point No. 8.
12. **Dividing the dough** : Shape the dough into a long cylinder and divide to get eight equal portions. The best method is to divide the cylinder into two and then further keep making halves till you get eight equal balls.
13. **Intermediate proofing** : Shape each dough piece into a ball using a light, even pressure with the heel of your hand and turning it in a clockwise direction, pleats, if any should be towards the bottom. Keep the balls covered with a moist duster for five minutes for intermediate proofing.
14. **Readying the baking tray** : Take a clean baking tray and grease it lightly with oil. Remove any extra oil by rubbing with paper.
15. **Shaping the balls** : Take the ball you had made first and give it a desired shape. Keep on the greased baking tray. Shape all balls and keep in rows on the baking tray with a gap of 2" on all sides. The gap between various rolls is important as they will be increasing in size and will stick to each other if enough space is not provided. This will spoil the appearance.
16. **Final Proving** : Cover the trays with duster, keep in a warm place till the rolls are doubled in volume.
17. **Egg wash** : Beat one egg slightly and using a pastry brush lightly coat the rolls.
18. **Bake** : Bake in an oven preheated to 200° C for about 20-25 minutes or till golden brown in colour.

19. **Cool** : Keep on a cooling rack for cooling and brush a little butter on top.

Round, knotted or coiled?

Bread rolls can be shaped variously and you can develop as many as your imagination permits. A few shapes are discussed here.

- (i) **A simple round** : Bread rolls can be shaped as rounds which are simple and quite acceptable. You can also make a criss-cross pattern by drawing deep lines using a sharp knife before egg wash.
- (ii) **Single knot** : Exerting an even pressure with both hands, role each portion if dough backwards and forwards until it is about 9" in length. Tie the strip of dough into a loose single knot.
- (iii) **Double knot** : Roll the dough with both hands till 12" in length. Bring both ends towards the centre and the two adjacent single knots.
- (iv) **Clover leaf rolls** : Divide one ball of dough into 3 equal parts. Make 3 rounds and place on greased tray to form a clover leaf pattern.
- (v) **Coiling a turban** : Roll out a cylinder of 12" length and coil into a spiral.
- (vi) **Plait** : Divide the dough into 3 equal parts and roll each one to 5-6" length. Using the three strands, tie a plait. At the beginning all 3 stands should be joind neatly and the same should be done at the end.

INTEXT QUESTIONS 6.2

1. Explain in brief
 - a) Why do we knead the dough?
 - b) What is fermentation?
 - c) Why is knocking back important?
 2.
 - a) Why are glazes or whashed applied on bread products?
 - b) Explain the commonly used glazes.
-

2. Hamburger Roll

These rolls are used for making hamburgers and vegetable burgers.

Ingredients needed:

Flour	—	1 kg
Salt	—	20 g
Sugar	—	50 g
Fresh yeast	—	20 g
Egg	—	1 + 1 (for egg wash)
Butter/Margarine	—	50 g

Method :

1. Dissolve yeast in a little water in a mug.
 2. Dissolve salt and sugar separately in water in another mug.
 3. Add one slightly beaten egg to yeast solution and mix well.
 4. Sieve flour on tabletop and make a bay in centre.
 5. Add salt and sugar solution and yeast & egg solution in bay of flour, mixing all the fine. Make a soft, smooth dough. Use more water if required.
 6. Knead for 10-15 minutes as explained for Bread Rolls.
 7. Keep in a greased bowl covered with a moist duster. Leave this in a warm place for fermentation till double in volume (about 45 minute to 1 hour).
 8. Knock back and keep again in the same manner for second fermentation. Again the dough should double in volume. It will take 30 minutes approximately.
 9. Knock back again and shape into a cylinder.
 10. Divide into 16 equal portions. Make balls and keep on table top covered with moist duster for 5 minutes.
 11. Reshape the balls into rounds and keep on greased tray at a distance of 2" from each other.
 12. Covered in a warm place, keep till double in volume (approx. 25 minutes).
 13. Eggwash and sprinkle sesame seeds on top.
 14. Bake at 200° C for about 20-25 minutes till golden brown in colour.
 15. Cool on a rack and apply a little butter on top to avoid drying.
-

3. FRUIT BUNS

There are generally eaten as a tea time snack.

Ingredients needed :

Flour	—	225 g
Salt	—	a pinch
Sugar	—	25 g
Milk	—	100 ml
Yeast	—	15 g
Egg	—	1 + 1 (for egg wash)
Lemon colour	—	a few drops
Lemon essence	—	1/4 tea spoon
Glazed cherries	—	20 g
Orange peel	—	20 g

Method :

1. Sieve flour and salt together.
2. Mix fat in the flour and rub in with finger tips till you get bread crumb consistently.
3. Dissolve sugar in 30 ml milk.
4. Dissolve yeast in 30 ml milk and mix egg into the same.
5. Add colour and essence to sugar solution.
6. Mix flour, sugar solution to get a soft dough.
7. Knead well till the dough becomes smooth and elastic.
8. Keep aside for first fermentation.
9. Wash, dry and chop the orange peel and glazed cherries and keep aside.
10. Knock back the dough when double in volume and mix chopped peel and cherries.
11. Keep aside for second fermentation.
12. Knock back again when doubled.
13. Divide into 8 equal parts.
14. Make balls and keep for intermediate proving for 5 minutes.
15. Shape the balls again and keep on greased tray.
16. Leave for final proving till double.
17. Apply the egg wash.

18. Bake 200°C for 15-20 minutes.

19. Cool on a cooling rack.

4. BREAD LOAF

Ingredients needed :

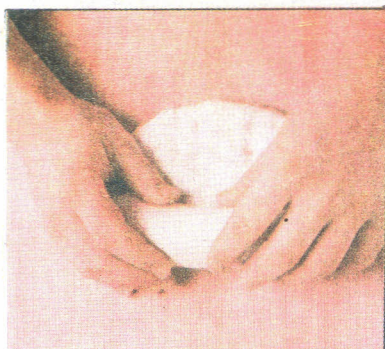
Flour	—	1½ Kg
Salt	—	15 g
Sugar	—	30 g
Milk powder (optional)	—	1 tea spoon
Fat	—	30 g

Method :

1. Sieve the flour and milk powder together.
 2. Dissolve salt and sugar in a little water.
 3. Dissolve yeast separately in water.
 4. Mix flour, salt and sugar solution, yeast solution and extra water to get a soft dough.
 5. Knead till the dough becomes soft, smooth and elastic.
 6. Add fat and knead again.
 7. Keep for first fermentation till double in volume, approximately 50 minutes to 1½ hours.
 8. Knock back.
 9. Keep for second fermentation.
 10. When double in volume (approximately 40 mts.) give second knock back.
 11. For making a small bread weigh and separate 450 g pieces of dough. For bigger bread 900 g pieces are made.
 12. Shape each piece into a ball & keep for 5-10 mts. for intermediate proving.
 13. Clean and grease the bread tin or mould. Do not forget to grease the lid. The lid should always be tight fitting to avoid overflowing of mixture in the oven.
 14. **Moulding of dough**
 - a) Flatten the round of dough by pressing with crossed hands.
 - b) Roll the dough starting at the far edge of the flattened round of dough, using the thumbs to maintain an even shape.
-



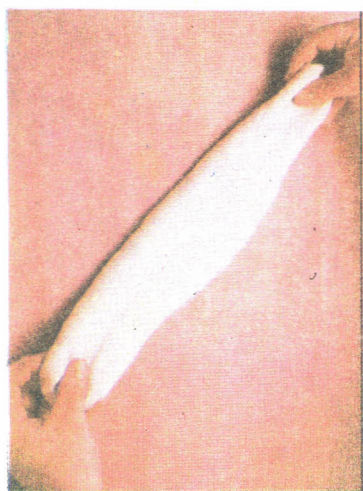
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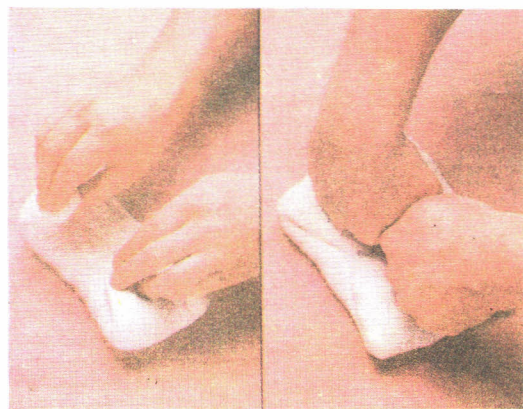
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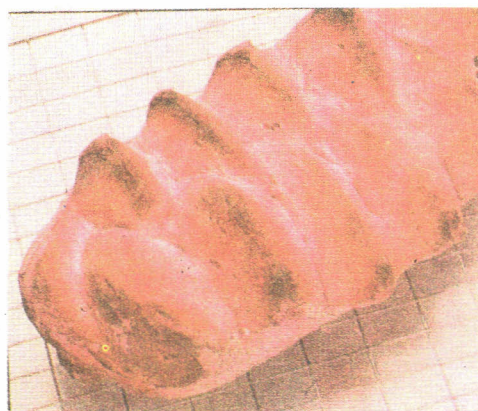
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7



8



9

- c) Flatten the rolled dough again with palms pressing on it. Repeat while exerting an even pressure on the whole of cylinder.
 - d) Stretch the dough from both ends using hands and pulling slightly. Continue till almost double of original length.
 - e) Fold by bringing elongated ends to the centre of the cylinder.
 - f) With knuckles of hands press the dough firmly and spread into a rectangle.
 - g) Roll up the cylinder to produce a compact cylinder. The length of this cylinder should be equal to that of the bread tin.
15. Place the moulded dough in a greased mould and put the lid loosely.
 16. Keep for final proving till it is almost ready to touch the lid.
 17. Cover the bread mould by fitting the lid, place on a baking tray.
 18. Bake at 210° C for about 25-30 minutes.
 19. The bread once fully baked, springs back on pressing by hand.
 20. Unmould bread on a cooling rack and leave overnight before cutting:

5. MILK BREAD

Milk bread can be made using both milk powder and liquid milk. We are using the recipe with milk powder as that is more standard whereas milk can be of varying fat contents. Milk Bread is denser in consistency with lesser holes than plain bread but it remains softer for a longer time as it retains moisture for a longer period.

Ingredients needed :

Flour	—	300 g
Milk powder (optional)	—	24 g
Yeast	—	9 g
Salt	—	6 g
Sugar	—	12 g
Fat	—	12 g

Method :

1. Sieve flour and milk powder.

2. Dissolve yeast in little water.
3. Dissolve salt and sugar in another mug using little water.
4. Mix flour, salt and sugar solution and yeast solution to get a soft dough.
5. Knead for 10 minutes till it becomes smooth and nonsticky.
6. Mash and add fat and knead again.
7. Keep for first fermentation till double in volume about 1-1½ hour.
8. Knock back.
10. Keep for second fermentation till double in volume about 30-40 minutes.
10. Knock back again.
11. Make a ball and keep for intermediate proving for 5 to 10 minutes.
12. Mould and put in greased bread tin.
13. Keep for final proving for about 25-30 minutes.
14. Cover the bread mould and keep on a baking tray.
15. Bake at 200° C for about 25-30 minutes.
16. Cool on cooling rack.

6. BROWN BREAD

This is made by using both white flour and whole meal flour in equal quantities. It is very popular in western countries as it is considered nutritionally superior. Whole meal flour is richer in B-complex vitamins and certain minerals and contributes these to the brown bread. The crumb of this bread is light brown in colour and has a delicious flavour.

Ingredients needed :

Flour	—	500 g
Whole meal flour	—	500 g
Yeast	—	20 g
Salt	—	10 g
Sugar	—	20 g
Caramel	—	10 table spoon

Method :

1. Sieve flour & whole meal flour together to mix evenly.
-

2. Dissolve yeast in little water.
3. Dissolve salt and sugar in another mug. Add caramel. You have already learnt how to make caramel. Do you remember?
4. Mix flour, yeast solution and salt and sugar solution to get a soft dough.
5. Knead till smooth (10-15 mts).
6. Add fat and knead again.
7. Keep for first fermentation till double in volume (about 50 minutes to 1¼ hour).
8. Knock back.
9. Keep second fermentation for about 30 minutes.
10. Give second knock back.
11. Divide into 450 g balls after weighing and keep for intermediate proving.
12. Mould and put on greased bread tin.
13. Keep for final proving for about 30-40 minutes.
14. Cover with lid and keep on a baking tray and bake at 200 °C for 30-35 minutes.
15. Cool on a rack before slicing.

6.6 HOW TO JUDGE THE QUALITY OF BREAD

Most of the commercial bread produced in our country is the sandwich type (i.e. made in bread tin so it has a fixed shape). But for judging of quality, open loaves are better as some of the finer points may not be observed in sandwich bread.

To make a complete assessment of the qualities of bread, it should be examined both for external as well as internal characteristics.

External Characteristics :

1. Volume
2. Symmetry of shape
3. Bloom and crust colour
4. Evenness of bake
5. Oven Break

Internal Characteristics :

1. Colour
2. Structure
3. Flavour and aroma
4. Moistness

External Characteristics

1. **Volume** : The first thing to catch the eye when we see a bread, is its volume. The volume of bread should always be considered in conjunction with its weight and for a particular weight of bread, the volume should be neither too big nor too small. Too much volume for the weight of bread indicates too open a texture which entails crumbiliness and early stalling. On the other hand, a small volume indicates too closed texture.
 2. **Symmetry of shape** : For all open loaf symmetry of shape is very important as it makes the bread pleasant in appearance and better suited for further use. For French loaves, garlic bread, bread rolls etc., it is important to have a balance in the various parts of the baked product.
 3. **Bloom and crust colour** : It requires a very fine judgement to check this characteristic. Just as a healthy plant or a healthy human beings has a different appearance from unhealthy ones, so is the natural bloom of bread different from artificially acquired shine. Bloom is the natural flush on a well baked product which is achieved by the use of good raw materials and proper processing at each stage.

Crust colour should be a pleasant, even golden brown colour which is obtained by caramelization of sugar. Thus right amount of sugar should be available in bread after fermentation to get good crust colour.
 4. **Evenness of Bake** : A good, well-baked bread should have even crust colour. The bread may not have even crust colour if the bread moulds are set too close to each other in the oven or if the oven has hot and cold spots. So keep a distance of at least half an inch between moulds and rotate the tray or mould if required.
 5. **Oven spring** : This is the expansion or rising that takes place in bread volume after it is put inside the oven for baking. It happens because in an open loaf till the crust forms there can be expansion due to expanding of gases on heating. This
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ensures better volume and texture. Proper fermentation, correct moulding adequate proofing and sufficient humidity in proofing chamber are required to ensure proper oven spring.

Internal Characteristics

1. **Internal colour** : It is influenced by the type and quality of flour. But different breads made from same flour may have different internal colours as the visual effect of whiteness of bread crumb is decided by the amount of light reflected. If more light is reflected bread appears whiter whereas more absorption of light makes the bread crumb appear darker in colour. A proper crumb structure with small evenly distributed holes is required for proper reflection of light.
2. **Structure** : If you observe the crumb structure of different kinds of bread products closely, you will find that shape and size of gas cells varies considerably e.g. plain white bread has oblong small gas cells which are evenly distributed throughout the crumb, while a French loaf will have round cells of uneven size. Structure of different kinds of bread products varies due to difference in formulation and processing. The internal structure of bread, should be as per its formula and should have right sized holes.
3. **Flavour and aroma** : You would fully enjoy a bakery product only when it has matching aroma. No cake, cookie or bread can be enjoyed thoroughly if suitable flavour is not present. An underfermented bread lacks aroma whereas over fermented one will have strong, sourish flavour.
4. **Moistness** : Quality of freshness of bread is judged by the degree of its moistness. Moistness is influenced by the condition of gluten and starch in the bread and not by the amount of total moisture presence in the bread. Some of the bread making ingredients e.g. salt, sugar, fat etc. help in retaining moisture in the bread. Improperly proofed or stale bread is dry in texture. Right amount of moisture provides required elasticity to bread and that helps in proper and neat slicing of bread.

6.7 BREAD FAULTS AND THEIR REMEDIES

A thorough knowledge of raw materials and the functions they perform and the basic bread making procedure is a must to be able to bake a good bread or roll. It is necessary to control the temperature, humidity and timing at different stages of bread making. A

skilled baker should examine the bread carefully and by reasoning and then experimentation, he should be able to detect the cause of fault and subsequently find the solution.

Here, we are going to discuss the common faults and remedies so that you can examine your products and improve upon them.

- i) **Too small a volume** : This means bread or bread roll has not risen enough. it could happen due to any of the following causes:
 - a) Too tight a dough or less water
 - b) Too little yeast
 - c) Less fermentation time given to the dough
 - d) Too cold a dough
 - e) Excess salt
 - f) Oven temperature too high
 2. **Excessive volume in bread** : It is the exact opposite of first point, i.e. the roll or bread has risen too much
 - a) Too slack a dough or too much water
 - b) Lack of proper temperature in the oven
 - c) Lack of salt in the recipe
 - d) Excess of yeast
 - e) Too much time given for proofing
 - f) Loose moulding.
 3. **Crust colour not right** : Crust colour should be golden brown. It is controlled by the amount of sugar present in the dough at the time of baking and temperature of the oven.
 - i) Pale brown colour could be due to :
 - a) Excessive fermentation time
 - b) Lack of salt
 - c) Too high dough temperature
 - d) Excess yeast
 - ii) Too dark reddish brown colour could result due to
 - a) Too much salt
 - b) Too cold dough or fermentation temperature too low.
 - c) Too tight a dough
 4. **Cracks or breaks in buns, rolls or bread**
 - a) Under fermentation
 - b) Under proofing
-

- c) Oven temperature too high
- 5. **Over moist or stricky crumb** : In this case when you cut the bread, the interior will be too moist or sticky
 - a) Proofing or baking in excessive humidity.
 - b) Bread is under baked.
- 6. **Rapid drying or staling of bread** : This means that moisture retention is less and crumb will become dry very quickly.
 - a) Baking in a cool oven for a longer time.
 - b) Temperature of dough is too high.
 - c) Too tight dough

6.8 BREAD DISEASES

The two diseases which affect bread are

- (i) Rope
- (ii) Mould.

These diseases are particularly prevalent in warm and humid weather i.e. April to August in most parts of our country.

(i) Rope

Rope is caused by a bacteria — *Bacillus mesentericus vulgatus* found in soil. It comes into the bread from improperly washed wheat or unhygienic conditions in bakery.

Bread develops a peculiar smell (sickening, sweet like rotten fruits), gets discoloured and may become a little sticky. Later on, smell and stickiness increases. When an infected slice is broken, it looks as if a number of threads are entwined in it. Very heavy infection may almost liquify the crumb.

Prevention : To prevent rope, an acidic medium is required. Acetic acid of 10% strength can be added at the rate of one percent based on flour.

Calcium propionate at the rate of 0.1% (based on flour) can also be used. It can be increased slightly but too high levels of Calcium propionate will elongate the proving time of bread.

Utmost hygiene is important to prevent rope. There should be no accumulation of dirt on equipment, utensils and the premises. Underbaked, overripe bread is also likely to get ropy faster. So proper proving and baking and cooling of bread are important

before packaging. Ideal temperature and humidity for storage are 70-95°F and 65-75% respectively.

(ii) Mould

Spores of various kinds of moulds are always present in the atmosphere and they start growing on finding suitable conditions of temperature and moisture in the crumb of bread. Spores enter through the cracks on surface of bread. Normally three kinds of moulds are found in bread :

- i) White — due to *Mucor mucedo*
- ii) Greenish or bluish — due to *Penicillium*
- iii) Black — due to *Aspergillus niger*

Prevention : Precautionary measures required against mould are the same as in the case of 'rope', i.e. general cleanliness, good ventilation, avoidance of warm and humid conditions, thorough cooling of bread and increasing the acidity of dough.

Now that you know the faults that can arise in bread making, you will agree that it is, indeed, an art to bake a good bread or roll.

INTEXT QUESTIONS 6.3

1. What do you understand by the term 'moulding'?
2. What are the differences in plain white bread, milk bread and brown bread?
3. Give reasons for :
 - i) Finding the crumb sticky and moist.
 - ii) Too light colour of the crust of bread.
 - iii) While baking cracks in the buns.
 - iv) Too much rising in volume and hard texture of rolls.

ANSWERS TO INTEXT QUESTIONS

- 6.1 1. a) Flour, yeast, liquid, salt
b) Yeast c) Proteins d) Kneading e) Water, milk
f) Shortening g) Yeast, sugar, carbon dioxide, alcohol
2. a) Fresh compressed b) Exact c) Sugar d) High
- 6.2 1. and 2. Refer to the text please.
- 6.3 Please refer to the text.
-

DANISH PASTRIES AND CROISSANT

7.1 INTRODUCTION

In the previous chapter you had learnt about yeast raised doughs, which are used for making bread and bread products. The same yeast doughs can be enriched by using eggs, butter etc. to take on cake like qualities. Eggs make the bread lighter and more moist, butter can give it a tender, almost melting texture. Depending on the quantities you use of either of the ingredients, and on how you incorporate them, the transformation can be dramatic and diverse.

Most of these enriched rolls are traditionally eaten at breakfast time, through croissants (to be read as krosson) or crescent rolls taste delicious with coffee at any time.

7.2 OBJECTIVES

After reading this lesson you will be able to :

- describe different types of rich breads and rolls;
- list various enriching agents used;
- demonstrate methods for preparing them;
- devise variations in dough, fillings and shapes.

7.3 BRROCHE (read as Bree-osh)

It is the richest of all yeast breads as it contains a lot of butter and eggs. It also requires a longer time, for fermentation and proving. This unhurried rising improves brioche's flavour and silky texture.

Brioche is best eaten warm and fresh as its buttery flavour and fine texture can be fully appreciated. But it can also be served cold. With its moistness and high fat content, it will keep for several days.

Brioche dough can also be made in advance and stored for a day or two in the refrigerator. This can be a big help as making of brioche requires a lot of skill and patience and is a time consuming procedure.

The recipe

You will need :

Flour	— 225 g
Salt	— 2.5 g

Fresh compressed yeast	—	15 g
Milk	—	110 - 115 ml
Sugar	—	15 g
Egg	—	1
Butter	—	60 g

The Method :

The method for making of broche can be divided into three parts—

Part A

- 1) Dissolve yeast in a little luke warm milk.
- 2) Add to the yeast and milk solution approximately 50 g of sieved flour and make a soft, smooth dough.
- 3) Keep this dough covered with a wet duster in a warm place for about 30 minutes.

This is known as the **starter dough**.

Part B

1. Dissolve sugar and salt in a little milk.
2. Dissolve yeast in remaining milk.
3. Break egg in a bowl and beat slightly with a spoon or fork or egg beater.
4. Mix the egg with yeast solution.
5. Make dough using salt and sugar solution and yeast solution.

Part C

1. Add dough (A) to dough (B) and knead thoroughly.
 2. Keep the prepared dough in a warm place for fermentation until double in volume.
 3. Knock back and divide into eight equal portions.
 4. Make balls and keep on the table top covered with a moist duster for 5-10 minutes.
 5. Mould them into traditional Brrioche shapes.
 6. After the brioche has doubled in volume, egg wash.
 7. Bake at 200° C for 10-15 minutes or till golden brown in colour.
 8. Leave the brroche to cool for about 15 minutes and then cut into vertical wedges and serve with butter.
-

7.4 DOUGHNUTS

Dough nuts are a popular item in India. Abroad, these are considered more of a breakfast item but here in our country, they are generally enjoyed with tea or coffee. It is one of the very rare items which though sold in bakeries is not baked, but deep fried. You might wonder as to how a fried item is a part of baked goods. That is because we use a raising agent — either yeast or baking powder while making doughnuts. Care should be taken to use new oil while frying doughnuts, otherwise they may take on unwanted flavours already present in the oils.

To make Doughnuts

You will need :

Flour	— 450 g
Sugar	— 50 g
Salt	— 5 g
Eggs	— 2
Cinnamon powder	— 5 g
Castor sugar	— 115 g
Milk	— 125 ml
Oil (for frying)	— 250 ml

Method for preparing

1. Sieve flour on table top and make a bay in the centre.
2. Dissolve yeast in 50 ml milk.
3. Dissolve salt and sugar in about 50 ml of milk.
4. Beat the eggs slightly and add to yeast.
5. Add the yeast and egg solution and salt and sugar solution into the flour bay and mix properly to get a soft dough. Use more milk, if required.
6. Knead well till smooth and elastic.
7. Keep in a warm place for rising till double in volume.
8. Knock back.
9. Make a ball and keep on table top covered with a moist duster. Rest the dough for about 15 to 20 minutes.
10. Sprinkle a little dry flour on the table top and rolling pin. Then roll the dough to ½ an inch thickness.

11. Cover a thali with a duster and sprinkle dry flour on it. This is to be used for keeping doughnuts for final proofing and it ensures that they do not stick to the base
12. Cut the rolled dough using a doughnut cutter.
13. Keep the cut doughnuts on a floured duster. Cover using another duster.
14. Keep for final proofing till double in size in a warm place.
15. Heat oil in a karahi and deep fry the doughnuts. When the bottom side is golden brown in colour turn them upside down using a frying spoon.
16. Remove from oil and drain on a newspaper to remove all extra oil.
17. Mix castor sugar and cinnamon powder in a plate or thali.
18. Roll doughnuts into cinnamon sugar.

You will get approximately 20 doughnuts from this mixing of dough.

7.5 CROISSANT OR CRESCENT ROLLS

Croissants are the favourites on a French breakfast table. These are prepared from a lightly enriched yeast dough interleaved with thin layers of butter. This kind of dough is called a **leavened puff dough** — leavened as yeast has been used for raising and puff because butter is added to the dough in exactly the same manner as we learnt for flaky pastry to produce a puffy effect in the final product. Croissants are a delectable variety of yeast products as a dough in case of these rolls is raised not only by yeast but also by the butter's moisture, which turns to steam during baking and separates the layers into light flakes.

The recipe

You will need

Flour	—	225 g
Salt	—	2.5 g
Yeast	—	15 g
Sugar	—	15 g
Egg	—	1 No.
Milk	—	100 ml
Margarine	—	170 g
or		
Butter	—	(20+50+50+50g)

The Method :

1. Sieve flour and salt on table top.
2. Make starter dough by dissolving yeast in 20 ml milk and then adding enough flour to get a soft dough.
3. Keep the prepared starter in a warm place till it doubles in volume.

Remaining dough

4. Using fingers rub 20 g fat in the remaining flour (as explained for short crust paste).
5. Dissolve sugar in 50 ml. milk.
6. Add egg to sugar solution.
7. Prepare dough using the remaining flour and egg and sugar mixture.
8. Knead the dough well.

Mixing and fermentation

9. Mix the starter dough into the rest of the dough and knead thoroughly to get a medium soft dough.
10. Keep in a warm place for fermentation till double in volume.
11. Knock back
12. Roll into a ball and keep on the side of the table covered with moist duster. Keep for 5-10 minutes.

Rolling and addition of fat

13. Roll out the dough into a rectangle about 8 mm thick. Cream 50 g butter/ margarine in a bowl with a wooden spoon and spread on dough with a palette knife over two-thirds of its length leaving a 2 cm wide margin round the edges.
14. Fold the unbuttered one-third of the rectangle over half of the buttered section and bring over the remaining part of the rectangle. There are now two layers of fat sandwiched between three layers of the dough.
15. Seal the edges of the rectangle by pressing lightly with a rolling pin the three open sides of rectangle. This step ensures that fat does not escape during further rolling of dough.
16. Roll out the dough again lightly too much pressure frees the

boffered for out and always be arounded Roll out again into a rectangle.

17. Add next 50 g of fat repeating the procedure from step 13 to 16.
18. Then add the last 50 g of fat again, repeating from step 13 to 16.
19. Lastly, give a book fold, i.e. instead of dividing into three and getting three layers, divide the rectabgle into four. Fold the two outer sides first and then refold.
20. Roll out the layered dough to a thickness of about 1/8th inch. Neatly trim the sides of the dough into a rectangle with a knife/ dough scraper.
21. Cut the dough length wise into strips about 6 inches wide.
22. Now you have to cut out triangles out of these shapes. With the dough scraper, mark points about 6 inches apart, make diagonal cuts between the marks to produce triangles.
23. Gently seperate each triangle. Starting at the base, roll up the triangle tightly. Tuck the tip of triangle just under the roll. Shape the dough into a crescent by that the ends of the roll so that they point inwards.
24. Keep the croissants on a greased tray and leave for final proofing for about 35-45 minutes.
25. Egg wash.
26. Bake at 200°C till golden brown in colour (approximately 15-20 minutes).
27. Cool.

INTEXT QUESTIONS 7.1

Fill in the blanks :

1. The method of adding fat to croissants is similar to that in pastry.
 2. The dough should be rolled after adding fat to prevent fat from coming out.
 3. Croisants are traditionally eaten at time in France.
 4. Dough nuts are flavoured withpowder.
 5.are a fried item though considered a part of bakery.
-

7.6 DANISH PASTRY

A yeast puff dough is often cut into a range of shapes — large or small, simple or elaborate - and folded around sweet or savoury fillings. These coffee or breakfast breads are known as Danish pastries.

These pastries can be shaped into various shapes-envelopes, pin wheels, cockscombs etc. We are going to show you some of these shapes and the method for making them.

Ingredients required

Flour	— 250 g.
Egg	— 1 + 1 (for egg wash)
Grain Sugar	— 30 g.
Lemon colour	— few drops
Lemon essence	— few drops
Salt	— a pinch
Margarine	— 50 g + 50 g + 50 g + 20 g
Milk powder	— 1 tb spoon
Fresh yeast	— 15 g
Fondant icing	— 250 g.
Glaced cherry	— 50 g
Apricot jam	— 25 g
Custard	— 150 ml
Water	— 50 c.c.

The Method :

1. Sieve flour and salt on a table top
2. Rub 20 g fat into flour to get bread crumb consistency.
3. Dissolve yeast in water.
4. Beat egg and sugar, add colour and essence.
5. Add egg mixture to the yeast.
6. Make dough with this mixture and add extra water if required.
7. Knead into a soft smooth dough.
8. Keep for fermentation in a warm place till double in volume.
9. Knock back
10. Make a ball and rest for 10 mts.
11. Roll into a rectangle 1/8 " thick and fold in margain 3 times as explained for croissant.

12. Give an empty book fold and keep the rectangle in a refrigerator for ½ hour.
13. Roll the dough again to a bigger rectangle about 1/4 inch thick and cut out 5 inch squares.
14. Join the corners on the centre and press slightly to give a depression.
15. Allow to proof in a warm place until almost double on bulk.
16. Egg wash
17. Pipe thick custard in the depression and decorate top with chirry.
18. Bake at 200 degree C for 20 minutes.
19. Prepare apricot jam sauce by diluting slightly and heating on slow fire.
20. Brush apricot jam on baked pastries and then decorate with fondant icing.

INTEXT QUESTIONS 7.2

1. State whether True or False :
 - (i) Richer yeast doughs require longer time for fermentation.
 - (ii) We cannot store brioche dough in a refrigerator as yeast will die.
 - (iii) We can use either yeast or baking powder for raising the dough while making doughnuts.
 - (iv) Most of the rolls prepared with rich doughs are traditionally eaten at breakfast.
 2. What is a starter dough ? Why is it prepared ?
 3. What are the enriching agents commonly used in baking?
-

Two variations of Danish pastry

- 1) Almond filled pinwheels
- 2) Cocks comb with savoury centre

While the basic procedure of preparing the pastry remains the same, the variations are achieved by different shapes as illustrated in the figures.

ANSWERS TO INTEXT QUESTIONS

7.1 1. Flaky 2. Lightly 3. Breakfast 4. Cinamon 5. Doughnuts

- 7.2. 1. (i) T (ii) F (iii) T (iv) T
2. Refer to text please
3. Egg, butter.
-

ACCOUNTING PROCEDURES

8.1 INTRODUCTION

You cannot imagine running a business which does not maintain proper accounts. Accounting is the language of the business as it reflects what exactly is happening in the business. Every businessman would like to know from time to time as to whether the business is running in Profit or Loss, as also the amount of profit or loss earned during a particular period. Hence, if you want to run even a small business it becomes important that you should be able to write your basic books of accounts and be able to understand what your accountant has written in the accounts books.

8.2 OBJECTIVES

After reading this lesson you will be able to:

- understand the basic language used in accounting;
- describe the procedure of writing the basic books of accounts namely-the journal and the ledger;
- demonstrate the method of preparing Trial Balance;
- describe the basic purchasing procedure for buying raw material for your bakery;
- evolve the accounting procedure of fixing selling price of items prepared in your bakery;
- devise the method of calculating gross profit and net profit earned by your bakery.

8.3 JARGON MADE EASY

Before proceeding further it is important to know certain important "terms" or "words" used in accounting.

- (i) **Transaction:** It is the give and take in a business. For a transaction to be complete, the actual give and take should take place, e.g. when we purchase a machine for the business, and pay for it, a transaction has taken place. Further a transaction can either be in cash or on credit. In the example mentioned above, when we pay cash at the time of purchasing the machine we call it **cash transaction**. But when we bring the
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machine and promise to pay the amount later, then we call it **credit transaction**.

- (ii) **Account** : When transaction relating to a particular person, organisation, thing, income or expenditure is recorded under a particular head for a given period it is called an **account**, e.g. Ram's account, goods account, cash account, rent account, sales account etc. Basically there are 3 types of accounts :

(a) Personal account

(b) Real account

(c) Nominal account

(a) **Personal account** : It is the account of persons, companies, Institutions, firms, shops etc. Rahul's account, Taj Hotel Account, Delhi University Account, Reliance Account, etc. are examples of personal accounts. A separate account is opened in the name of each person or business institution, with whom the business has dealings, in order to show the total benefit given or received by each account.

(b) **Real account**: These are accounts of things or property, your business possesses or has acquired, such as furniture, sale or purchase of goods, cash, machinery etc. A separate account is kept for each such property. These things are real and can be seen or felt.

(c) **Nominal account**: These represent the items of expenses or losses, or income or gains. An account is opened for each head of expenditure or loss, or income or gain, such as rent, salary, interest, insurance, commission etc. These things are abstract and cannot be seen or felt.

- (iii) **Goods**: They are the main items in which you are doing your business. You are buying goods and selling them to your customers either in the same form or by converting them into finished products. The main intention is **selling** and **making profit** out of it. For a bakery and confectionery business flour, sugar, eggs, cream, etc. are purchased to make cakes, biscuits, bread etc., hence these are all goods. For the sake of convenience, goods account is broken up into four parts, namely, purchase account, sales account, purchases return account, and sales return account.

Purchase account : When goods are purchased, they are written under a separate head known as purchase account.

Sales account- When goods are sold they are written under a separate head known as sales account.

Purchases return account - When goods purchased are returned due to some reason such as being defective or not delivered in time, they are put under purchases return account.

Sales return account — When goods sold by you are returned due to some reason they are put under sales return account.

- (iv) **Debit :** When some thing is received, or the receiver of the benefit in a transaction or an expense or a loss is incurred in always debited, e.g. when a machine is purchased, the machine is debited. Or, something is paid to Patel, here Patel is debited or rent is paid, here rent is debited.
 - (v) **Credit :** When something is given, or the giver of the benefit in a transaction or a gain or an income is received, it is always credited, e.g. sold furniture. Here Furniture is credited, or received cash from Khanna, here Khanna is credited or received commission, here commission is credited.
 - (vi) **Debtor:** A person who has received some things but has not paid for it becomes a debtor, e.g. you sold goods to Mr. A worth Rs. 100 but Mr. A has not yet paid for the same but promises to pay for it in due course of time. Mr. A becomes your debtor.
 - (vii) **Creditor:** A person who has given something but you have not paid for it becomes your creditor. e.g. you purchased goods from Mr. B worth Rs. 100 but have not yet paid. You promise to pay him in due course of time. Mr. B becomes your creditor.
 - (viii) **Double entry system of Book-keeping and Accounting:** Whenever a transaction takes place in a business, it has a double effect and at least two accounts are affected by it. One account is the giver of the benefit and the other account is the receiver of the benefit. Hence the transaction is recorded at both the places under the heads of two different accounts. This is called the double entry system. e.g. you receive cash Rs. 100 from Mr. C. In this case Mr. C is the giver of the benefit, hence Mr. C's account is credited with Rs. 100. At the same time cash Rs. 100 has been received, hence your cash account is debited with Rs. 100. In this way in a double entry system, a transaction is recorded at two different places.
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- (ix) **Assets:** It is something that our business possesses on any given day, e.g. Cash, Bank Balance, property like machines, land etc. Our debtors are also our assets because we have to receive something from them.
- (x) **Liabilities:** It is something that our business has to pay. e.g. Bills payable, our creditors, because we have to pay something to them in due course of time.
- (xi) **Capital:** It is the money or property brought into the business from outside by the proprietor e.g. cash, land, building etc.

8.4 STAGES OF ACCOUNTING

It is divided into three steps

1. Primary entry
 2. Secondary entry or classification
 3. Final accounts.
1. **Primary Entry:** Here the entry is first recorded into the journal so that no transaction is forgotten to be recorded. But by looking into the Journal we cannot know things, like how much cash we have with us, how much we have to receive from a debtor, how much we have to pay to a creditor, how much profit we have made or loss incurred during a particular period. We will discuss about the journal after this section.
 2. **Secondary entry or classification:** In order to know the position of different accounts in the business we post the entries from the journal into the ledger. We shall discuss how to post the entries from the journal into the ledger later in this topic.
 3. **Final accounts:** From the balances of each ledger accounts we prepare the final accounts for a given period, e.g. one year, in order to know our profit or loss and the assets and liabilities we possess on the last day of the year. For this we prepare profit and loss account and balance sheet.

INTEXT QUESTIONS 8.1

Complete the following statements

1. Accounting is a Science because
 2. Accounting is the of the business.
 3. Goods means that items in which the business is
-

- in order to make
4. The three types of accounts are,, and
 5. Goods account is broken into parts for convenience namely, and
 6. Debtor is a person from whom we have to something.
 7. Creditor is a person to whom we have to something.
 8. In double entry system a transaction is recorded in at least places.
 9. Asset is something that your business.....
 10. Liability is something that your business has to
 11. The three stages of accounting are, and

8.5 JOURNAL

The following is the specimen of a Journal

Journal of M/s from to

Date	Particulars	Ledger folio	Amount Debit	Amount credit

Journal is a book of account of Primary or Original entry in which all transactions, as and when they take place, are recorded in the order of dates in an analysed form, showing each transaction in its two fold aspects.

Every transaction has a two-fold effect, involving entries being made in two different account — one of these accounts is a receiving account and the other account is a giving account. So the entry requires that this double effect should be clearly shown in the journal.

The "date" column is meant for writing the date of the transaction. "Particulars" column is used for recording the names of the two accounts affected by the transaction. One account is debited while the other is credited. The "Ledger folio" column is used for writing down the page number of the ledger (secondary book) where these particular accounts are posted from this journal. The "debit amount" column is used for writing the debit amount while the "credit amount", Column is used for writing the credit amount, as each account is either debited or credited with an amount.

The process of entering business transaction in a journal is known as **journalising**.

For passing the Journal entries, the following procedure is adopted:

1. First of all, the particulars two or more accounts covered by the given transaction are ascertained
e.g. Jan 1, 1987, purchased goods from Rahul Rs. 500.
In this example, "goods" account and "Rahul" account are affected.
2. It is ascertained which account is a receiving account and which account is a giving account.
In the above example "goods" account is a receiving account because the goods are coming and stock of goods is increasing. "Rahul" account is a giving account.
3. After this, it is found out whether they are personal accounts, or real account or nominal accounts.
In the above example, goods account is a real account, while Rahul's account is a personal account.
4. After finding out the above information the rules of journalising are applied according to the nature of the account.

The rule of debiting or crediting the different types of accounts are as follows:

1. Personal Account—Debit the receiver and credit the giver.
2. Real Account—Debit what comes in and credit what goes out.
3. Nominal Account—Debit expenses & losses and credit incomes & gains.

In the above example goods have come in and goods account is a real account, hence goods account is debited. Similarly, Rahul's

account is a personal account and Rahul is the giver, hence Rahul's account is credited.

Date	Particulars	Ledger Folio	Amount Debit (Rs.)	Amount Credit (Rs.)
Jan 1, 1977	Goods A/c Debit To Rahul's A/c (Being goods purchased from Rahul worth Rs. 500)		500	500

A short description in the particulars column after each entry, is called "narration" e.g. "Being goods purchased from Rahul worth Rs. 500" is **narration**.

If only one goods account is opened for purchases, sales, purchase return, and Sales return, then it creates difficulty in finding out readily the figures of purchases, sales etc. Hence goods account is broken into the above four parts.

In the above example where goods are purchased from Rahul, the goods account can be replaced by purchase account and the following entry can be passed.

Date	Particulars	Ledger Folio	Amount Debit (Rs.)	Amount Credit (Rs.)
Jan 1, 1977	Purchases A/c Debit To Rahul's AC (Being goods purchased from Rahul worth Rs. 500)		500	500

Exercise

Journalise the following transaction in the books of Mr. Kumar for January, 1979 —

- Jan 1 Mr. Kumar started business with cash Rs. 20,000 and Bank Balance Rs. 10,000.
- Jan 2 Purchased goods for cash Rs. 10,000.
- Jan 3 Sold goods for cash Rs. 8,000.

- Jan 10 Purchased goods from Modern Stores worth Rs. 1,200.
 Jan 12 Goods returned to Modern Stores as some of them were defective, Rs. 200.
 Jan 15 Sold goods to Mohan on credit Rs. 100
 Jan 16 Goods return by Mohan Rs. 50.
 Jan 18 Cash sales Rs. 400.
 Jan 20 Paid wages Rs. 10.
 Jan 24 Cash received from Mohan Rs. 50.
 Jan 26 Paid to Modern Stores Rs. 1,000.
 Jan 28 Purchased furniture Rs. 500.
 Jan 31 Paid salary Rs. 1,000 and rent Rs. 500.

Solution

Journal of Mr. Kumar for Jan 1979

Date	Particulars	LF	Amount (Dr.)	Amount (Cr.)
1979				
Jan 1	Cash A/c Dr. To Kumar's capital A/c (Being business started with cash)		20,000	20,000
Jan 1	Bank A/c Dr. To Kumar's capital A/c (Being business started with Bank Balance)		10,000	10,000
Jan 2	Purchase A/c Dr To cash A/c (Being goods purchased for cash)		10,000	10,000
Jan 3	Cash A/c Dr. to sales A/c (being goods sold for cash)		8,000	8,000
Jan 10	Purchases A/c Dr. To Modern Stores A/c (Being good purchased form Modern stores)		1,200	1,200
Jan 12	Modern store A/c Dr. To purchase Return A/c (Being goods returned to Modern Stores)		200	200

Date	Particulars	LF	Amount (Dr.)	Amount (Cr.)
Jan 15	Mohan A/c Dr. To sales A/c (Being goods sold to Mohan).		100	100
Jan 16	Sales return A/c Dr. To Mohan A/c (Being goods returned by Mohan)		50	50
Jan 18	Cash A/c Dr. To sales A/c (being goods sold for cash)		400	400
Jan 20	Wages A/c Dr. To cash A/c (Being wages paid for cash)		10	10
Jan 24	Cash A/c Dr. To Mohan A/c (Being cash received from Mohan)		50	50
Jan 26	Modern stores A/c Dr. To cash A/c (Being cash paid to Modern stores)		1,000	1,000
Jan 28	Furniture A/c Dr. To cash A/c (Being furniture purchased for cash)		500	500
Jan 31	Salary A/c Dr. To cash A/c (Being salary paid in cash)		1,000	1,000
Jan 31	Rent A/c Dr. To cash A/c (Being rent paid in cash)		500	500
			53010	53010

INTEXT QUESTIONS 8.1

1. What is a journal? Give its importance. (Answer in about 5 lines)
2. (a) In case of personal account the receiver is.....
 (b) An account of things or property is known as account.
 (c) An account of abstract things is known as account.
3. Enter the following transactions in the Journal of M/S Ratco for october 1994.

1 Oct.	Started business with a capital of Rs. 10,000 cash
3 Oct	Purchased goods for cash Rs. 3,000
7 Oct	Sold goods for cash Rs. 4,000
10 Oct	Purchased from Sood and Co. machine worth Rs. 1,000 on credit
15 Oct	Paid for stationery Rs. 100
19 Oct	Received commission Rs. 400
25 Oct	Paid Rent Rs. 200
31 Oct	Paid salary to staff Rs. 300.
4. Journalise the following transactions in the books of Rayon & Co. for Dec. 1994.

Dec 1	Started business with cash Rs. 500,000 and Bank Balance Rs. 100,000
Dec 7	Purchased goods from cannon & co. worth Rs. 7000
Dec 14	Sold goods to Rahim worth Rs. 20,000
Dec 19	Cash sales Rs. 9000
Dec 22	Cash purchases Rs. 10,000
Dec 27	Paid wages Rs. 2000
Dec 31	Received cheque from Rahim of Rs. 19,000.

8.6 LEDGER

When the transactions of a business for a particular period have been recorded in the Journal, the next step is to classify the enteries made therein according to their nature. The necessity of classification arises because the journal cannot give the picture of total purchases, sales, expenses, income etc. of that period, and the amount payable to creditors and amount receivable from debtors. In brief it can be said that the transactions relating to one particular

person or article or profit or loss or expenditure are collected together and written at one place in a consolidated form. This consolidated record is known as an **account**. These accounts are opened in a separate book which is called the "ledger", which is the main book of the business. Ledger is the second stage of accounting.

The ledger is usually in the form of a bound register. The following is the specimen of a ledger. It has two sides, the debit side and credit side, the columns being identical on both sides.

Ledger Account

Dr				Cr			
Date	Particulars	J/F	Amount Rs. P.	Date	Particulars	J/F	Amount Rs. P.

Note : Dr = Debit; Cr = Credit

"Posting" of Journal entries into the Ledger

The process of transferring entries from journal into the ledger is called "**Posting**". In the ledger a particular account is opened for a particular period, normally one year, and the entries made in the journal are sorted out and transferred into the related account in the ledger. For every transaction a new account is not opened. If the account is already appearing in the ledger for that period then all entries relating to that account are collected and written together in a consolidated form through that period in that account. A new account is opened only if that account is not appearing in the ledger. In this way posting is the work of preparing ledger accounts with the help of the Journal.

Every Journal entry involves at least two accounts, indicating the accounts to be debited or credited.

Example : Feb 1, 1977 sold goods for cash Rs. 1000

In the example, cash account will be debited and sales account will be credited because cash has come in and goods have gone out. The following Journal entry will be passed.

Feb 1'77	Cash A/c Dr To sales A/c (Being goods sold for cash)		Rs. 1000	
				Rs. 1000

In the ledger two accounts will be opened—one, cash account and the second, sales account. In cash A/c following details will be written on the debit side because cash Account is debited.

Date column — 1 Feb 1977

Particulars column — To sales A/c

J/F column — page number of the Journal from where it has been transferred

Amount column — Rs. 1000

At this stage nothing will be written on the credit side. The credit side of this account is utilised either when the payment is made and cash goes out of the business or when at the end of the period the account is closed and balance is to be taken out.

Dr

Cr

Date	Particulars	J/F	Amount Rs.	Date	Particulars	J/F	Amount Rs.
1 Feb'77	To sales A/c		1000				

Similarly in sales account, the following details will be written on the credit side because goods are going out .

Date column - 1 Feb 1977

Particular column - By Cash Account

J/F Column - Page number of Journal from where it has been transferred

Amount column - Rs. 1000

At this stage nothing will be written on the debit side of the sales account. When the sales account is closed then the balance will be written on the debit side.

Dr

Cr

Date	Particulars	J/F	Amount Rs.	Date	Particulars	J/F	Amount Rs.
				Feb 1, 77	By cash A/c		1000

When entry is made on the debit side of any account in the ledger, the word "To" is used in the particulars column along with the name of the account. Similarly when entry is made on the credit side of an account the word "By" is used in the particulars column along with the name of the account.

Balancing of account—balancing of accounts is done normally when you want to close an account and want to know the balance that is in hand or has to be received or paid. The following procedure is adopted for balancing the ledger accounts.

1. Total up the two sides of an account and write these totals on a rough paper.
2. Find out the difference between the totals of the two sides.
3. This difference is known as "**balance carried down**" (balance c/d). If the total of the debit side is more than this difference of balance c/d is written on the credit side in the ledger account to make the totals of both the sides equal. If the total of the credit side is more then this balance c/d is written on the debit side of the ledger account.
4. After this, a single line is drawn in the amount columns of both debit and credit sides after the last posting or balance c/d on the case may be. The lines of the debit and credit amount columns should be in the same level. Then the total of the debit side should be written on the debit side in the amount column and the total of the credit side be written in the amount column of the credit side. These two totals will always be equal because the difference has already been written on the lighter side in the form of balance c/d. These two totals will always be on the same horizontal level.
5. If any account shows balance c/d then that particular account is reopened in the next period. The closing balance of the previous period becomes the opening balance of the new period as balance b/d.

In the above example the accounts will be closed in the following manner.

Dr.				Cash Account				Cr.
Date	Particulars	J/F	Amount	Date	Particulars	J/F	Amount	
Feb 1 '77	To sales A/c		1000	Feb 28 '77	By Bal c/d		1000	
			<hr/> 1000				<hr/> 1000	
Mar 1 '77	To bal b/d		1000					

Dr.				Sales Account				Cr.			
Date	Particulars	J/F	Amount	Date	Particulars	J/F	Amount				
Feb 28 '77	To Bal. A/c		1000	Feb 1 '77	By Cash a/c	1000					
			<u>1000</u>							<u>1000</u>	
				Mar 1 '77	To bal b/d					<u>1000</u>	

Exercise

Enter the following transaction into the Journal and Post them into the ledger. Also, balance the ledger accounts.

- March 1, 90 Gopal & Sons started business with a capital of Rs. 50,000 cash.
- March 3 Purchased goods for cash Rs. 10,000
- March 7 Sold goods for cash Rs. 5000
- March 10 Purchased stationery for Rs. 200
- March 14 Purchased goods from Hemant Rs. 4000 on credit
- March 17 Paid to Hemant Rs. 2000
- March 19 Purchased goods from Hemant Rs. 3000 on credit
- March 23 Paid to Hemant Rs. 1000
- March 24 Cash sales Rs. 2000
- March 31 Paid for rent Rs. 500

Journal of Gopal & Sons for March 1990

Date	Particulars	L/F	Amount Rs.	Amount Rs.
March 1'90	Cash A/c Dr. (Being cash brought into business as capital by Gopal & Son)		50,000	50,000
March 3	Purchase A/c Dr. To cash A/c (Being goods purchased for cash)		10,000	10,000
March 7	Cash A/c Dr To sales A/c (Being goods sold for cash)		5,000	5,000
March 10	Stationery A/c Dr To cash A/c (Being stationery purchased for cash)		200	200

Date	Particulars	L/F	Amount Rs.	Amount Rs.
March 14	Purchase A/c Dr To Hemant's A/c (Being goods purchased from Hemant on credit)		4000	4000
March 17	Hemant's A/c Dr To cash A/c (Being cash paid to Hemant)		2000	2000
March 19	Purchase A/c Dr To Hemant's A/c (Being goods purchased from Hemant on credit)		3000	3000
March 23	Hemant's A/c Dr To cash A/c (Being cash paid to Hemant)		1000	1000
March 24	Cash A/c Dr To sales A/c (Being goods sold for cash)		2000	2000
March 31	Rent A/c Dr To cash A/c (Being rent paid in cash)		500	500
			<u>77,700</u>	<u>77,700</u>

Ledger A/c of Gopal & Son for March '90

Dr.

Cr.

Date	Particulars	J/F	Amount	Date	Particulars	J/F	Amount
			Cash A/c				
Mar. 1	To Gopal & Son A/c		50,000	Mar 3	By purchase A/c		10,000
Mar 7	To sales A/c		5,000	Mar 10	By stationery A/c		200
Mar 24	To sales A/c		2000	Mar 17	By Hemant's A/c		2000
				Mar 23	By Hemant's A/c		1000
				Mar 31	By Rent A/c		500
				Mar 31	By bal c/d		43,300
			<u>57,000</u>				<u>57,000</u>
April 1	To bal b/d		43,000				

Capital A/c

Dr.				Cr.			
Date	Particulars	J/F	Amount	Date	Particulars	J/F	Amount
Mar 31	To bal c/d		50,000	Mar 1	By cash A/c		50,000
			<u>50,000</u>				<u>50,000</u>
				April 1	By bal b/d		50,000

Purchase A/c

Dr.				Cr.			
Date	Particulars	J/F	Amount	Date	Particulars	J/F	Amount
Mar 3	To cash A/c		14000	Mar 31	By bal c/d		17,000
Mar 14	To Hemant's A/c		4000				
Mar 19	To Hemant's A/c		3000				
			<u>17000</u>				<u>17000</u>
April 1	To bal b/d		17000				

Sales A/c

Mar 31	To bal c/d		7000	Mar 7	By cash A/c		5000
			<u>7000</u>	Mar 24	By cash A/c		2000
							<u>7000</u>
				April 1	By bal b/d		7000

Stationery A/c

Mar 10	To cash A/c		200	Mar 31	By bal b/d		200
			<u>200</u>				<u>200</u>
April 1	To bal b/d		200				

Hemant's A/c

Mar 17	To cash A/c		2000	Mar 14	By purchase A/c		4000
Mar 23	To cash A/c		1000	Mar 19	By purchase A/c		3000
Mar 31	To bal b/d		4000				<u>7000</u>
			<u>7000</u>	April 1	By bal b/d		4000

Rent A/c

Mar 31	To cash A/c		500	Mar 31	By bal c/d		500
			500				500
April 1	To bal b/d		500				

INTEXT QUESTIONS 8.2

1. What is a ledger ? Explain in 4 lines
2. How many sides does a ledger have?
(Answer in one line)
3. What is balancing of ledger accounts?
4. Post the journal entries of Q.No. 3 on the topic on Journal into the ledger.
5. Post the journal entries of Q.No. 4 on the topic of Journal into the ledger.

8.7 TRIAL BALANCE

Trial Balance is a statement which is prepared with the balances of the ledger accounts in order to check the arithmetical accuracy of the entries that were made by the accountant in the Journal and posted into the ledger.

According to Double Entry system of accounting as and when any transaction takes place in a business, it is to be recorded in the journal, then two postings are made in the ledger, one account being debited and the other account being credited with the same amount. When the accounts are balanced, equal debits and credits are cancelled, and the total of all debit balances must be equal to the total of all credit balances. To check this arithmetical accuracy, a statement is prepared, which is known as "**Trial Balance**". The total of debit sides of Trial Balance must be equal to total of credit side. If the totals do not agree, then it is assumed that there is some mistake either in passing the journal entries or postings done in the ledger.

Objectives of Preparing Trial Balance

1. To check the arithmetical accuracy of the journal entries and ledger postings
2. To get the balances of all ledger accounts at one place. The management will know the position of all accounts and can

compare the figures of one year with the figures of other years.

3. To make the staff more careful and alert as trial balance can be prepared on any day and it can disclose the error. Hence the staff making such mistakes can be held responsible.
4. To help in preparing Final account i.e. Profit and Loss account and Balance sheet which will in turn disclose the profit or loss made during the year and the position of assets and liabilities of the business at any particular moment.

Exercise

Prepare a trial balance from the Exercise given under "Ledger".

Trial balance as on 31/03/90

Sr. No.	Ledger Accounts	L/F	Debit (Rs.)	Credit (Rs.)
1.	Cash Account		43,300	
2.	Gopal & Sons Capital Account		50,000	
3.	Purchase Account		17,000	
4.	Sales Account			7,000
5.	Stationery Account		200	
6.	Hemant's account			4,000
7.	Rent account		500	
	Total		61,000	61,000

The balances shown as balance b/d is either a debit or a credit balance depending on which side of the ledger it is written. This is then transferred to the Trial Balance as the case may be.

From the Trial Balance the final accounts are prepared which is the third and last stage of accounting for which you require a professional.

INTEXT QUESTIONS 8.3

Fill in the Blanks :

1. Trial Balance is prepared from of accounts.
2. Trial Balance gives accuracy of ledger accounts.
3. Final accounts are prepared from.....balance.

8.8 HOW TO PURCHASE RAW MATERIAL

Purchasing raw material is an art. If purchasing is not done correctly it results in increasing material cost, directly affecting the selling price of your finished product. It may also result in poor quality of finished product if the raw material purchased is of poor quality. Therefore your objective during purchasing raw material should be of purchasing raw material according to your requirement both quality and quantity wise, at the minimum possible price.

Purchasing can be done from two sources :

- (i) From a supplier
- (ii) From open market

(i) Purchasing from a supplier

You should float tenders giving clearly your specifications (requirement) of raw material, mentioning clearly what type of material you require. The supplier who quotes the minimum rates should be given the contract of supplying raw material. The supplier will supply you the material at your premises for the contract period. The material should be checked for quality and rates at the time of supply.

(ii) Purchasing from open market

Here the purchasing is done from the market by you or some other person for which you should know the following :

- (a) Places from where different raw material is available.
- (b) The specifications required by you e.g. the size, weight of eggs required by you.
- (c) The desirable and undesirable qualities of raw material, i.e. how would you check that a particular raw material is good or bad.
- (d) The present market rates of raw material required by you.
- (e) The keeping quality of raw material required by you i.e. for how long you can store a raw material and at what conditions.
- (f) The storing space available with you so that you purchase the raw material according to storing space available with you.

8.9 COSTS

There are 3 types of costs, namely,

- (i) Material Cost
-

(ii) Overhead Cost

(iii) Labour Cost

(i) Material Cost

The cost of material used in preparing a product is calculated and that gives the material cost of a product e.g. you can take receipts of the products you are preparing, calculate the price of each material that you have used and then calculate the total material cost of that receipt.

(ii) Overhead Cost

These include rent, rates, gas and electricity charges, telephone, stationery, insurance premium, advertising, repairs and depreciation of assets.

(iii) Labour Cost

These include wages, salaries, cost of staff meal, staff accommodation, staff training costs.

8.10 PROFIT

There are two types of profits, namely

- (a) Gross profit
- (b) Net profit

(a) Gross profit

Gross profit is the difference between the price at which a product is sold and the material cost of the product

Hence, **Gross Profit = Selling Price — Material cost**

Remember : Gross Profit is not the actual profit

Example :

The selling price of a cake is Rs. 50. The cost price of the material used in making that cake is Rs. 20. Therefore the Gross Profit is Rs. 30.

(b) Net Profit

In finding out gross profit only material cost is taken into consideration but the other two costs, namely overhead cost and labour cost must also be considered for finding the net profit which is the actual profit.

Net Profit is therefore the difference between the price at which the product is sold and the total cost, i.e. material cost, overhead cost and labour cost. In other words it can also be said that Net Profit is equal to Gross Profit minus overhead cost and labour cost.

Hence, Net Profit = Gross Profit – Overhead Cost

Example

The cost of material used in preparing a cake is Rs. 27. The overhead expenses were estimated to be Rs. 18 and the labour cost involved was Rs. 17. If the cake was sold at Rs. 100 find the net profit.

Solution

Selling price		= Rs. 100
Total cost —	Material	= Rs. 27
	Labour	= Rs. 17
	Overhead	= Rs. 18
		= Rs. 62

$$\therefore \text{Net Profit} = \text{Rs. 100} - \text{Rs. 62} = \text{Rs. 38}$$

8.11 SELLING PRICE

Wrong pricing policy can quickly ruin a business. Hence it becomes very essential to fix the selling price very carefully. Over-pricing can make a product unpopular while under-pricing may result in losses.

One should know the limit of each type of cost, beyond which the result may not be good.

- (i) Material cost should not exceed more than 40% of the selling price.
- (ii) Overhead cost should not be more than 20% of the selling price.
- (iii) Labour cost should not be more than 15% of the selling price.

Hence the total cost should never be more than 75% of the selling price. It should be tried and brought down to 70% or even less.

Formula to Remember

Total Cost + Profit = Selling Price

Hence, in the above example

$$\text{Total Cost} = 40 + 20 + 15 = 75$$

If Selling Price = 100

Then, Net Profit = $100 - 75 = 25$

Examples

1. Find the selling price to achieve a gross profit of 60% on selling price, if the material cost is Rs. 36.

Solution

Cost + Profit (60%) = Selling Price (100%)

∴ Material cost = 40% (100% – 60%)

Now the material cost is given as Rs. 36

∴ Rs. 36 = 40%

∴ $36/40 = 1\%$

∴ 100% = $36/40 \times 100$ (Selling Price)
= Rs. 90

∴ Selling price must be Rs. 90 to get a gross profit of 60% on Selling Price.

2. Find the sales necessary to achieve a net profit of 10% on sales if the total cost are Rs. 19.18

Solution

If net profit is 10%, then total cost are 90%

∴ Rs 19.8 (cost) — 90%

∴ $19.80/90 \times 100 = 100\%$ Selling Price

= Rs. 22.00 (Selling Price)

INTEXT QUESTIONS 8.4

1. Gross Profit is the difference between and material cost.
2. Total cost is calculated by adding cost, cost and cost.
3. Net profit is gross profit minus cost.
4. If a Bakery made sales of Rs. 16500 in one month and the material cost is Rs. 6500 during the same month, find the gross profit in rupees and express it as percentage of sales.

5. A confectionery made a gross profit of Rs. 1000. If labour cost were Rs. 450 and overhead cost Rs. 425 Find the Net Profit.
6. Find the selling Price necessary to achieve a gross profit of 65% on selling price if the cost of raw material of a cake is Rs. 18.

8.12 ANSWERS TO INTEXT QUESTIONS

- 8.1
 1. Refer to the text.
 2. (a) person/company/institution/firm
(b)
- 8.2 Please refer to the text.
- 8.3
 1. Balances, ledger.
 2. With material
 3. Trial balance.
- 8.4
 1. Selling price
 2. Material cost, labour cost, overhead cost.
 3. Overhead
 4. Rs. 100.00 ; 71.4%
 5. Rs. 125
 6. Rs. 51.40

GLOSSARY OF BAKERY TERMS

Acidity	: Sourness in a food product a condition, indicating excess fermentation in yeast doughs.
Aeration	: The treatment of batter or dough by charging with air to produce increase in volume.
Albumin	: Egg white
Almond paste	: Almonds ground to paste with sugar.
Bake	: To cook or roast by dry heat in a closed place such as an oven.
Baking powder	: A chemical raising agent composed of soda, acids and corn starch (to absorb moisture), when wet and heated gives off carbon dioxide gas to raise the batter.
Bars	: Sweet biscuits made in oblong or rectangular shape
Batter	: A homogeneous mixture of ingredients with liquid.
Blend	: A mixture of several ingredients or grades of one ingredients.
Bran	: Skin or outer brown covering of the wheat grain.
Bread	: The accepted term for baked foods made of flour, sugar, shortening, salt and liquid and leavened by the action of yeast.
Bread Dough	: The unbaked mass of ingredients used for making bread.
Buns	: Small shapes of bread dough, sometimes slightly sweetened or flavoured.
Butter	: Fat obtained by churning sweet or sour cream.
Butter cream frosting	: Rich, uncooked frosting or icing containing castor sugar, butter or other shortening whipped to a plastic condition.

Butter sponge	:	Cake made from sponge batter to which shortening has been added.
Butter scotch	:	A flavour produced by the use of butter and brown sugar.
Bake blind	:	A term used to describe the baking of unfilled tart or flans. Filling is then put after baking e.g. lemon curd tarts
Bay	:	A well, made in a heap of flour and other dry materials to receive the liquid ingredients for mixing.
Beat	:	The aeration of fat, sugar, egg and other materials by beating together. This can be done by hand or by machine.
Bowl	:	A rounded metal container used in the bakery for mixing, beating or whipping by hand or machine.
Cake	:	A product obtained by baking a leavened and shortened batter containing flour, sugar salt, egg, milk shortening and flavouring along with a leavening agent.
Caramelized sugar	:	Dry sugar treated with constant stirring until method and dark in colour used for flavouring and colour.
Carbohydrates	:	Sugars and starches derived mainly from fruits and vegetable sources.
Carbondioxide	:	A colourless, tasteless edible gas obtained during fermentation or from a combination of soda and acid.
Cardamom	:	Seed of an East Indian spice plant, used for flavouring.
Cinnamon	:	Aromatic bark of a tree, ground and used as a flavouring.
Citron	:	The sweetened rind of the fruit.
Cocoa	:	A powder made from chocolate from which part of cocoa butter has been extracted.
Colours	:	Concentrated shades produced from natural and artificial sources; used for colouring bakery products.

Corn meal	: A coarse meal made by grinding corn.
Cottage cheese (Paneer)	: Drained curd of soured or coagulated milk, pressed and mixed until smooth.
Cream	: The fat portion of milk.
Creaming	: The process of mixing and aerating short- ening and other solids such as sugar or flour.
Cream Puffs	: Baked puffs of cream puff dough, which are usually hollow, generally filled with whipped, sweetened cream or custard.
Crescent Rolls	: Crescent shaped rolls having a flaky tex- ture.
Crushing	: Formation of dry crust on surface of doughs due to evaporation of water from the sur- face.
Currant	: The acidulous berry of a shrub, usually dried and dark in colour.
Custard	: A sweetened mixture of eggs and milk which is baked or cooked over hot water.
Candied	: Preserved by immersion in a super satu- rated sugar solution. Orange, lemon and other citrous fruit peels are candied.
Comb scraper	: A plastic scraper with a serrated edge which makes a pattern on the surface of icing.
Curdle	: When fat, sugar and eggs are beaten together carefully, an emulsion is formed. If during the beating the eggs are added too quickly, or are too cold or the initial creaming of the fat and sugar is not com- plete, then the mixture will separate and lose its consistency. Some aeration is lost when a mixture curdles.
Danish Pastry	: A flaky yeast dough having butter or short- ening rolled into it.
Dates	: The fruits of a species of palm.
Date filling	: A cooked blend of dates, water and sugar.

Dissolve	:	To bring a solid into solution in a solvent.
Divider	:	A machine used to cut dough into a desired size or weight.
Dough	:	The thick uncooked mass of combined ingredients for bread rolls and biscuits.
Dough temperature	:	Temperature of dough at different stages of processing.
Dough nuts	:	A cake, frequently with a hole in centre, made of yeast or baking powder dough and deep fried in fat.
Dry fruit	:	Fruit from which most of the moisture has been removed by drying.
Dry yeast	:	A dehydrated form of yeast.
Dusting	:	Distributing a fine film of flour or powdered sugar on a surface.
Dusting flour	:	Flour used to soft on to dough handling equipment to prevent dough from sticking.
Eclair	:	A long thin shell of the same paste as cream puffs.
Emulsification	:	The process of blending together fat and water solutions of ingredients to produce a stable mixture which will not seperate on standing.
Enriched Bread	:	Bread made from enriched flour and containing prescribed amounts of vitamins and minerals.
Extract	:	Essence of fruits or spices used for flavouring.
Essences	:	Aromatic compounds used for flavouring confectionery. They can be natural or synthetic or blends of both.
Fermentation	:	The chemical changes that take place in a compound due to living organisms (yeast or bacteria), usually gas is produced.
Final proof	:	The last stage in the production of yeast goods before they are baked.

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- Flaked : Cut very thinly into slices i.e. flaked almonds.
- Fold : a) to overlap one side of yeast dough with another.
b) In cake batter, to overlap the batter on to itself to lightly incorporate ingredients.
- Genaese : Fatless sponge cake used as base in decorated cakes.
- Glaze : a) to give glossy surface to baked products by washing with eggs before baking.
b) to give a dry, glossy finish to buns by washing with a sugar solution immediately on removal from the oven.
c) to brush with jam sauce.
- Greasing : Spreading a film of fat on a surface.
- Gluten : The elastic protein mass that is formed when the protein of wheat flour are mixed with water. On ripening the gluten becomes extensible so that expansion takes place without loss of gas. During baking the gluten coagulates and forms, with other proteins, the structure of bread or cake.
- Grease : To brush fat into cake or to smear fat over baking sheets.
- Hardness of water : A measure of mineral salts in greater amounts than is present in soft water.
- Humidity : Usually termed as 'Relative Humidity'. It expresses the percentage of moisture in the air.
- Hydrogenated oil : An oil that has been treated with hydrogen to convert it into a hard form. Also termed as Vanaspati ghee in ordinary parlance.
- Ingredients : Raw material blended to give palatable products.
- Icing : The coating and decoration of cake to make it better tasing and more appetising.
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Icing Sugar	:	Very finely powdered sugar that has been sieved through a fine mesh.
Jaggery	:	A brown sugar product as an intermediate product during sugar refining.
Jelly	:	It is clear and translucent, made with gelatine, flavoured with fruit juice and suitably coloured and sweetened.
Knock Back	:	A term used to indicate the operation of degassing a fermented dough either by hand or machine. If by hand the dough is punched down, folded and stretched. Large doughs are returned to the mixing machine where in a very short time the operation is completed.
Leavening	:	Raising or lightening by air, steam or gas. The agent for generating gas in a dough or batter is usually yeast or baking powder.
Liqueur	:	Spirits sweetened with sugar and flavoured with essences, fruit juice or essential oils. e.g. cointreu, Benedictine, Grand-marnier, Apricot Brandy, etc.
Loaf Cake	:	Cake baked in bread or similar deep container.
Macaroons	:	Small biscuits made from coconut or almond paste, sugar and egg whites.
Manipulation	:	A term used to describe the use of the hands or machine in moulding, folding, rolling, shaping and plaiting.
Marzipan	:	A paste consisting of approximately two-thirds freshly blanched almonds and one third sugar which has been ground finely through rollers and then cooked. It is used for modelling and cake decoration.
Marking	:	To cover a cake or base with icing or frosting or chocolate shavings or roasted nuts etc.
Meal	:	Coarsely ground grain.

- Meringue : A white frothy mass of beaten egg white and sugar.
- Milk solids : The solid material of milk after removal of water i.e. milk powder.
- Molasses : Light to dark brown syrup obtained in making cane sugar.
- Mould : a) the operation of shaping dough either by hand or by machine
b) A hollow form which may be of metal, wood, or plastic into which marzipan, sugar paste and biscuit dough can be cast.
- Muffins : Small, light cakes baked in muffin moulds traditionally served at breakfast time.
- Palette knife : A thin flat knife with a rounded end used for spreading icing and cake batter.
- Petit fours : The term used to describe very small fancy cakes, so small that they can be placed in the mouth in one piece.
- Plasticity : The consistency or feel of shortening.
- Piping : The operation of forcing icing contained in a bag through the opening at the point of an icing pipe. The pipe can be plain or designed at the point to go.
- Plaiting : The weaving of one or more ropes of dough into an ordered design.
- Praline : Caramelised sugar and nuts (cashewnuts or almonds) are allowed to cool and set. It is then ground to a rough powder.
- Prove : The filling of yeast dough with gas. Final proof is the time between final shaping of dough and the time when it is placed in oven.
- Puff pastry : A structure built of alternate layers of dough and fat. The structure is built by rolling out and giving sufficient turns until there are hundreds of layers of dough and butter.

Raisins	:	Dried sweet grapes, may be dark or bleached.
Recovery Time	:	The time necessary for a dough to loose its toughness after manipulation.
Rolls	:	Small bread made from yeast leavened dough, also termed as buns.
Salt	:	Chemically sodium chloride, used for flavour and fermentation control.
Scrapus	:	A small oblong piece of plastic material, with two corners rounded for scraping down mixing bowls.
Seasoning	:	The adding of salt, pepper, spices and herbs to savoury foods.
Shortening	:	Fat or oil used in baked products for tenderizing.
Short crust pastry	:	An easily breakable pastry made from flour, fat, sugar and egg. For savoury pastry the sugar is omitted.
Sifting/Sieving	:	passing through fine sieves for effective blending and to remove foreign or coarse particles.
Soft flour	:	A flour containing a strong stable gluten.
Tart	:	Small pastries with filling of jam, custard frangipane, macroon etc.
Tea Breads/rolls	:	Small yeast goods made from dough enriched with milk, egg, etc.
Tight dough	:	The term used to describe a stiff dough which contain insufficient water.
Texture	:	Describes the extent of silkiness or of softness of the internal structure of a baked product like cake or bread as sensed by touching the cut surface.
Tutty-Fruitti	:	A filling made of candied fruit mixture.
Turntable	:	An equipment for using during decoration of cakes. Cake is kept on the top of the turntable and can be rotated so that a

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- smooth coating of icing can be applied.
- Wash** : a) to brush with egg, milk or water before baking
b) To brush with a glaze after baking.
- Whip** : To rapidly aerate a mixture by means of hand or machine beater/whisk.
- Whisk** : An instrument made of wire used for aerating mixtures.
- Yeast** : A living micro organism of fungus family of plants used for aeration as it produces carbon-di-oxide gas under favourable conditions of temperature, moisture and food.
- Yield** : The total baked weight of a particular formula.
- Zest** : The coloured outer rinds of oranges and lemons. The zest contains essential oils of the fruit and thus adds to the flavour.
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