Food Craft Institute

(Department of Skill Development, UT of J&K)
Bamyal Morh,NH-44 Nagrota Jammu

Training Manual

Bakery and Confectionery

Unit-1-PRIDE IN NATION

Pride is an inwardly directed emotion that carries two common meanings. With a negative connotation, pride refers to an inflated sense of one's personal status or accomplishments. With a positive connotation, pride refers to a satisfied sense of attachment towards one's own or another's choices and actions, or towards a whole group of people, and is a product of praise, independent self reflection, or a fulfilled feeling of belonging.

PRIDE IN INDIA

1. India is the seventh largest county in the world and it's a fast growing economy.
2. India is a home for ancient civilization of the Indus Valley.
3. India has 28 states and 8 Union Territories.
4. India's history goes back to 3,200 BC when Hinduism was first founded. Buddhism, Jainism, Sikhism, Zoroastrianism, Christianity and Islam all exit within the country.
5. In India there are about 45 folk dances and 7 classical dance forms.
6. The great Indian epic are Ramayana – the first Indian epic and Mahabharata – the longest epic in the world literature with 100,000 two-line stanzas.
7. Yoga originated in India in 5000 BC and documented by 200 BC – 300 AD.
8. Facts about modern India
    - Pluralistic, Multilingual and multiethnic society
    - Secular democratic constitution
    - World's most populous democracy
    - About 431 million Indians have been raised above poverty since 1985
    - World's tenth largest importer and nineteenth largest exporter
    - Indian Labor force is world's second largest
    - Fastest growing IT super power
    - Indian Railways, the biggest employer in the world.
9. Few famous personalities of India

- ARYABHATTA – He was the first in the line of great mathematician-astronomers from the classical age of Indian mathematics and India astronomy.
- MOHANDAS KARAMCHAND GANDHI (2 October 1869 – 30 January 1948) – commonly known as Mahatma Gandhi, was a prominent leader of Indian Nationalism in British-ruled India. Gandhi led India to independence an inspired movement for non-violence, civil rights and freedom across the world.
- AVUL PAKIRJAINULABDEEN ABDUL KALAM (born on 15 October 1931) – He is an Indian scientist and an administrator who served as the 11th President of India. He is also known as 'Missile Man'.
- MAQBOOL FIDA HUSSAIN (17 September 1915 – 9 June 2011) – commonly known as MF Husain, was an Indian painter and Film Director, internationally recognized as a printmaker, photographer and filmmaker.
- KALPANA CHAWLA (July 1, 1961 – February 1, 2003) – She was the First Indian American Astronaut and First Indian Woman in Space.
- Sachin Ramesh Tendulkar (Born On 24 April 1973) – He is an Indian Cricketer Widely Acknowledged as the Greatest Batsman in One Day Internationals and Second Only to Don Bradman in the all time greatest List in Test Cricket.
- B. R. Ambedkar : Ambedkar is recognised as the "founding father of the Republic of India"Ambedkar was the architect of the Indian Constitution and also served as the first Law Minister of India.
- Vallabhbhai Patel : Widely known as the "Iron Man of India" Patel was an independence activist and first Deputy Prime Minister of India (1947–50). Post independence, "Sardar" ("Leader") Patel worked with V. P. Menon towards dissolving 555 princely states into the Indian union.
- Jawaharlal Nehru : Independence activist and author, Nehru is the first and the longest-serving Prime Minister of India (1947–64).

Nehru himself was Prime Minister of India at the time of receiving Bharat Ratna award.

- Mother Teresa: "Saint Mother Teresa of Calcutta" was a Catholic nun and the founder of the Missionaries of Charity, a Roman Catholic religious congregation, Which manages homes for people who are dying of HIV/AIDS, leprosy and tuberculosis. She was awarded the Nobel Peace Prize for her humanitarian work in 1979.
- J. R. D. Tata : Industrialist, philanthropist, and aviation pioneer, Tata founded India's first airline Air India. He is the founder of various institutes including Tata Institute of Fundamental Research, Tata Memorial Hospital, Tata Institute of Social Sciences, Tata Motors, TCS, National Institute of Advanced Studies, and National Centre for the Performing Arts.
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Unit-2 TOURISM AND YOU

- The United Nations World Tourism Organization (UNWTO) defines tourism as the act of:

  "...travelling to and staying in places outside a person's usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited."

S.No	Type	Description
01	Domestic tourism	Residents travelling within their country of Residence
02	Inbound tourism	Non-residents travelling to the given country
03	outbound tourism	Residents travelling to another country
04	Internal tourism	Domestic tourism and inbound tourism
05	National tourism	Domestic tourism and outbound tourism

06	International tourism	Inbound tourism and outbound tourism
07	Culinary tourism	Travelling for Food and drink experiences
08	Dark tourism	Travel to sites associated with death and suffering
09	Disaster Tourism	Travel to sites that have experienced natural disasters
10	Ecotourism	Tourism which benefits the community, economy & the environment of a local area
11	Heritage (Cultural) tourism	Places, activities that represent the stories of people, past and present
12	Medical (Health) tourism	Medical services at a particular location
13	Space tourism	Trips taking tourists into space
14	Adventure Tourism	Involving exploration or travel with perceived risk to remote, exotic and possibly hostile areas. like Mountaineering,trekking,rafting,rock climbing.etc

Tourist

- **International Tourist**

"A visitor who travels to a country other than that in which he/she has his/her usual residence for at least one night but not more than one year, and whose main purpose of visit is other than the exercise of an activity remunerated within the country visited"

- **Domestic Tourist**

"Any person, regardless of nationality, resident in a country and who travels to a place in the same country for not more than one year and whose main purpose of visit is other than following an occupation remunerated from within the place visited"

21st Century Trends In Tourism

Travel and tourism will grow to new heights in the 21st century as it becomes more accessible to a larger cross section of the global population.

This will result in commensurate economic opportunities for developed and emerging destinations around the world. It will also create major challenges, not only in attracting and serving increased tourism demand, but also in mitigating the numerous potential negative externalities that will emerge as a result of tourism's rapid growth. Successful destinations will strike a balance in developing their tourism industries by monitoring international trends, engaging tourism stakeholders, ensuring that the benefits of tourism outweigh any potential negative impacts and pledging a more equitable distribution of tourism revenue.

IMPACT OF TOURISM

1. Income from tourism in the form of foreign exchange adds to the national GDP.
2. It generates employment as it is a labor intensive service industry. It provides direct employment in business such as hotels, restaurants and shops.
3. Impact of tourism on India is gigantic. There are recently many events that took place, which are a big catalyst for prompting tourism in India. The international sports event like 20/20 IPL Cricket Matches, Commonwealth Games, Formula 1 races etc.
4. Tourism helps in preservation of national heritage and environment. Several places of historical importance are TajMahal, QutabMinar, Ajanta ellora etc.
5. Tourism also helps in conserving the natural habitats of many endangered species.
6. Tourism increases self esteem of hosts and tourists.
7. Tourism promotes cultural awareness and can help preserve local culture and tradition.
8. Economic impact – Direct, indirect induced spending becomes wide spread in the community.
9. Tourism promotes peace and stability in the country by promoting cross cultural awareness.

Unit-3-Introduction to Baking

Baking is the technique of cooking food in an oven by dry heat applied evenly throughout the oven. The person that does the baking is called a baker. Breads, desserts and meat are often baked and baking is the primary cooking technique used to produce cakes and pastry based goods such as pies, tarts etc. The dry heat of baking gelatinizes starch and causes the outside of the food to brown giving it an attractive appearance and taste. The browning is caused by caramelization of sugars. Moisture is never really entirely sealed in however over time an item being baked will become drier and drier. The most common baked item is bread. Variations in the ovens, ingredients and recipes used in the baking of bread result in the wide variety of breads produced around the world. The term baking is not usually associated with the cooking of meats or vegetables.

The art of Baking:

Baking is basic but it can be tricky. It is one of the more advanced kitchen arts but one can learn it. Baking is awesome and it can be easier once one learns the basics. Unlike other types of cooking one cannot just add a little bit here or substitute a little bit there until one is pretty advanced. In all branches of cooking, the application heat changes one thing into another. In baking this mystery is even more pronounced. You make a dough or a batter, put a wet sticky thing onto the oven and eventually remove a mouthwatering solid object that smells so good to people. The one big rule is one must measure. This is probably another factor baker's love. They are kitchen chemists more than any kinds of cooks, using measuring spoons and cups instead of test tubes and beakers. One must measure accurately and have the right tools for it all to work. One needs different measuring cups for liquids and dry ingredients. Liquid measurers are usually glass with more space at the top to eliminate spills and a pour spout.

SCOPE OF BAKERY:

Making a career as a baker or a confectioner involves more than simply baking breads or cakes. To become a reputed baker, one should have the ability to innovate and experiment to come up with new recipes. Bakery is an art as well as science of mixing and baking various food ingredients to produce loaves, bread rolls, croissants, buns, pastries, cakes, pizzas, pies, and cookies. A baker may apply his own knowledge to produce variants of the same item, such as varieties of pizzas and Pastries. In a manufacturing set-up, a baker may create his own recipes and follow a different set of procedures to dish out exclusive items for a bakery. Although an unconventional choice, pursuing bakery or confectionery as a career promises enough scope, if you have a penchant to woo people with your culinary skills.

CAREER OPTIONS:

1. Baker
2. Food Technologist
3. Cake decorator
4. Pastry Chef

PREREQUISTES:

Expertise in baking methodology, and food preparation and presentation:

1. Understanding basic math to follow recipes and measure or alter baking formulas.
2. Strong interpersonal and communication skills.
3. Maintaining high standards of sanitation.
4. Nutritional awareness and implementation.
5. Proper knowledge of ingredients.
6. Following oral and written instructions.
7. An eye for detail and a good sense of taste and smell.
8. Ability to stand for long durations.

WORK ENVIRONMENT:

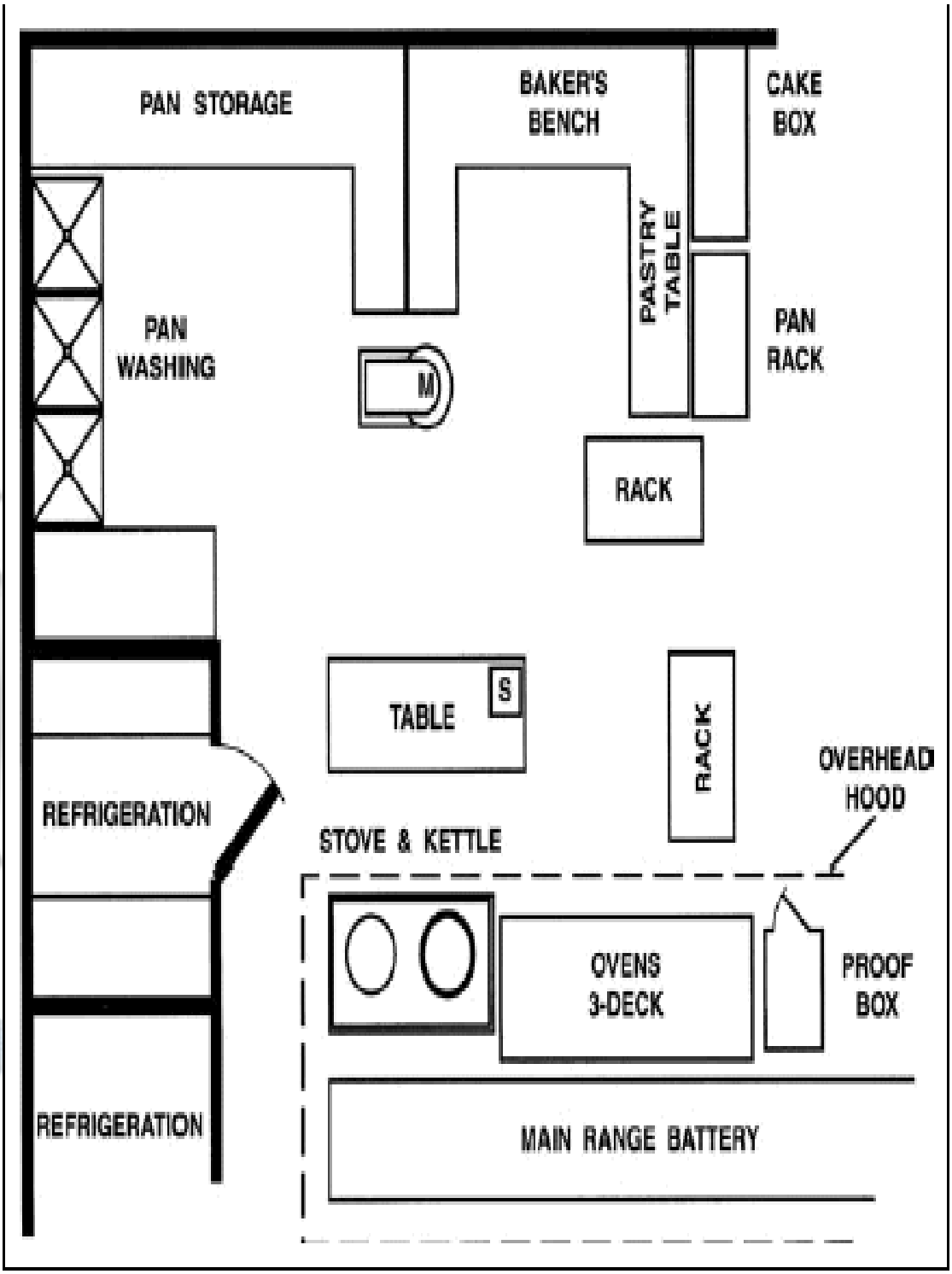
The work settings for a baker differ based on the establishment he is working for. Bakers in grocery stores, bakeries, and restaurants are accustomed to working in shifts on a full-time or part-time basis. They may also have to work on holidays. Bakers in five-star hotels or resorts may work in fixed shifts.

Festive and wedding seasons are the peak seasons, when a baker might have to stretch his work hours to cater to the demand. A baker should be prepared to work in high temperatures and noisy surroundings.

GROWTH PROSPECTS:

With the increasing number of bakeries, restaurants, and stores, the demand for professional bakers is expected to rise proportionally. The confectionery industry has no plans to slow down, which has created opportunities galore for upcoming bakers. Also, there is ample job security in the food and beverages industry, as there will always be demand for food products.

Layout of a Bakery in a Hotel



BAKING MEASUREMENTS:

Cups to Grams Conversions (Metric)

Butter Measurements

Cups	Sticks	Pounds	Tablespoons	Grams
¼	½	1/8	4	55 g
½	1	¼	8	112 g
1/3	1/2+1 & 1/3 tbspns	n/a	5 & 1/3	75 g
2/3	1 + 2 & 2/3 tbspns	n/a	10 & 2/3	150 g
¾	1 & ½	3/8	12	170 g
1	2	½	16	225 g
2	4	1	32	450 g

All Purpose Flour, Icing or Powdered Sugar

Cup	Grams
1/8 cup	15 grams
1/4 cup	30 grams
1/3 cup	40 grams
3/8 cup	45 grams

Cake Flour

Cup	Grams
1/8 cup	10 grams
1/4 cup	20 grams
1/3 cup	25 grams
3/8 cup	30 grams
1/2 cup	50 grams

1/2 cup	60 grams
5/8 cup	70 grams
2/3 cup	75 grams
3/4 cup	85 grams
7/8 cup	100 grams
1 cup	110 grams

5/8 cup	60 grams
2/3 cup	65 grams
3/4 cup	70 grams
7/8 cup	85 grams
1 cup	95 grams

Granulated Sugar

Cup	Grams
1/8 cup	30 grams
1/4 cup	55 grams
1/3 cup	75 grams
3/8 cup	85 grams
1/2 cup	115 grams
5/8 cup	140 grams
2/3 cup	150 grams
3/4 cup	170 grams
7/8 cup	200 grams
1 cup	225 grams

Brown Sugar

Cup	Grams
1/8 cup	25 grams
1/4 cup	50 grams
1/3 cup	65 grams
3/8 cup	75 grams
1/2 cup	100 grams
5/8 cup	125 grams
2/3 cup	135 grams
3/4 cup	150 grams
7/8 cup	175 grams
1 cup	200 grams

Sliced Almonds

Cup	Grams
1/8 cup	10 grams
1/4 cup	20 grams
1/3 cup	25 grams
3/8 cup	30 grams
1/2 cup	40 grams
5/8 cup	50 grams
2/3 cup	55 grams
3/4 cup	60 grams
7/8 cup	70 grams
1 cup	80 grams

Ground Almonds

Cup	Grams
1/8 cup	25 grams
1/4 cup	50 grams
1/3 cup	65 grams
3/8 cup	75 grams
1/2 cup	100 grams
5/8 cup	125 grams
2/3 cup	135 grams
3/4 cup	150 grams
7/8 cup	175 grams
1 cup	200 grams

Flaked Coconut

Cup	Grams
1/8 cup	10 grams
1/4 cup	20 grams
1/3 cup	25 grams
3/8 cup	30 grams
1/2 cup	40 grams

Grated Coconut

Cup	Grams
1/8 cup	10 grams
1/4 cup	25 grams
1/3 cup	35 grams
3/8 cup	40 grams
1/2 cup	50 grams

5/8 cup	45 grams
2/3 cup	50 grams
3/4 cup	60 grams
7/8 cup	65 grams
1 cup	75 grams

5/8 cup	60 grams
2/3 cup	65 grams
3/4 cup	75 grams
7/8 cup	85 grams
1 cup	100 grams

Unsweetened Cocoa Powder

Cup	Grams
1/8 cup	15 grams
1/4 cup	30 grams
1/3 cup	40 grams
3/8 cup	45 grams
1/2 cup	60 grams
5/8 cup	70 grams
2/3 cup	75 grams
3/4 cup	85 grams
7/8 cup	100 grams
1 cup	125 grams

Baking Measurements

If a recipe calls for this amount	You can also measure it this way
Dash	2 or 3 drops (liquid) or less than 1/8 teaspoon (dry)
1 tablespoon	3 teaspoons or 1/2 ounce
2 tablespoons	1 ounce
1/4 cup	4 tablespoons or 2 ounces
1/3 cup	5 tablespoons plus 1 teaspoon
1/2 cup	8 tablespoons or 4 ounces
3/4 cup	12 tablespoons or 6 ounces
1 cup	16 tablespoons or 8 ounces
1 pint	2 cups or 16 ounces or 1 pound
1 quart	4 cups or 2 pints
1 gallon	4 quarts
1 pound	16 ounces

Volume Measurements

US Units	Canadian Units	Australian Units
1/4 teaspoon	1 ml	1 ml
1/2 teaspoon	2 ml	2 ml

US Units	Canadian Units	Australian Units
1 teaspoon	5 ml	5 ml
1 tablespoon	15 ml	20 ml
1/4 cup	50 ml	60 ml
1/3 cup	75 ml	80 ml
1/2 cup	125 ml	125 ml
2/3 cup	150 ml	170 ml
3/4 cup	175 ml	190 ml
1 cup	250 ml	250 ml
1 quart	1 liter	1 liter
1 and 1/2 quarts	1.5 liters	1.5 liters
2 quarts	2 liters	2 liters
2 and 1/2 quarts	2.5 liters	2.5 liters
3 quarts	3 liters	3 liters
4 quarts	4 liters	4 liters

Weight Measurements

US Units	Canadian Metric	Australian Metric
1 ounce	30 grams	30 grams

US Units	Canadian Metric	Australian Metric
2 ounces	55 grams	60 grams
3 ounces	85 grams	90 grams
4 ounces (1/4 pound)	115 grams	125 grams
8 ounces (1/2 pound)	225 grams	225 grams
16 ounces (1 pound)	455 grams	500 grams (1/2 kilogram)

Temperature Conversions

Farenheit	Celsius
32	0
212	100
250	120
275	140
300	150
325	160
350	180
375	190
400	200
425	220

Farenheit	Celsius
450	230
475	240
500	260

Unit-4-HYGIENE

Personal Hygiene:

Germs or bacteria are to be found in and on the body and they can be transferred on to anything with which the body comes in contact. Personal cleanliness is essential to prevent germs getting on to food.

Personal Cleanliness:

Self-respect is necessary in every food-handler because a pride in one's appearance promotes a high standard of cleanliness and physical fitness. Persons suffering from ill health or who are not clean about themselves should not handle food.

Bathing:

Regular bathing at least once a week is essential, otherwise germs can be transferred on to the clothes and so on to food. If possible a daily bath or shower is ideal, but if this is not possible a through wash is satisfactory.

Hands:

Hands must be thoroughly washed frequently; particularly after using the toilet, before commencing work and during the handling the food. They should be washed in hot water with the aid of a brush and soap, rinsed, and dried on a clean towel or by hand hot-air drier. Hands and finger-nails if not kept clean can be a great source of danger as they can so easily transfer

harmful bacteria on to the food. Rings, watches and jewellery should not be worn where food is handled. Particles of food may be caught under the ring, and germs could multiply there until they are transferred into food. Watches (apart from the fact that steam ruins them) should not be worn, because food stuffs, e.g. salads and cabbage, which have to be plunged into plenty of water, may not be properly washed because a watch is worn.

Jewellery should not be worn, since it may fall off into food (un-known to the wearer) being handled. Hair which is not cared for is likely to come out or shed dandruff which may fall into food. Men's hair should be kept short as it is easier to keep clean; it also looks neater. Women's hair should be covered as much as possible. The hair should never be scratched, combed or touched in the kitchen, as germs could be transferred via hands to the food.

Nose:

The nose should not be touched when the food is being handled. If a handkerchief is used, the hands should be washed afterwards. Ideally, paper handkerchiefs should be used and then destroyed, the hands being washed afterwards. The nose is an area where there are vast numbers of harmful bacteria; it is therefore very important that neither food, people or working surfaces are sneezed over, so spreading germs.

Mouth:

There are many germs in the area of the mouth, therefore the mouth or lips should not be touched by the hands or the utensils which may come into contact with food. No cooking utensils should be used for tasting food, nor should fingers be used for this purpose as germs may be transferred to food. A clean teaspoon should be used for tasting, and washed well afterwards. Coughing over foods and working areas should be avoided as germs are spread long distances if not trapped in a handkerchief.

Ears:

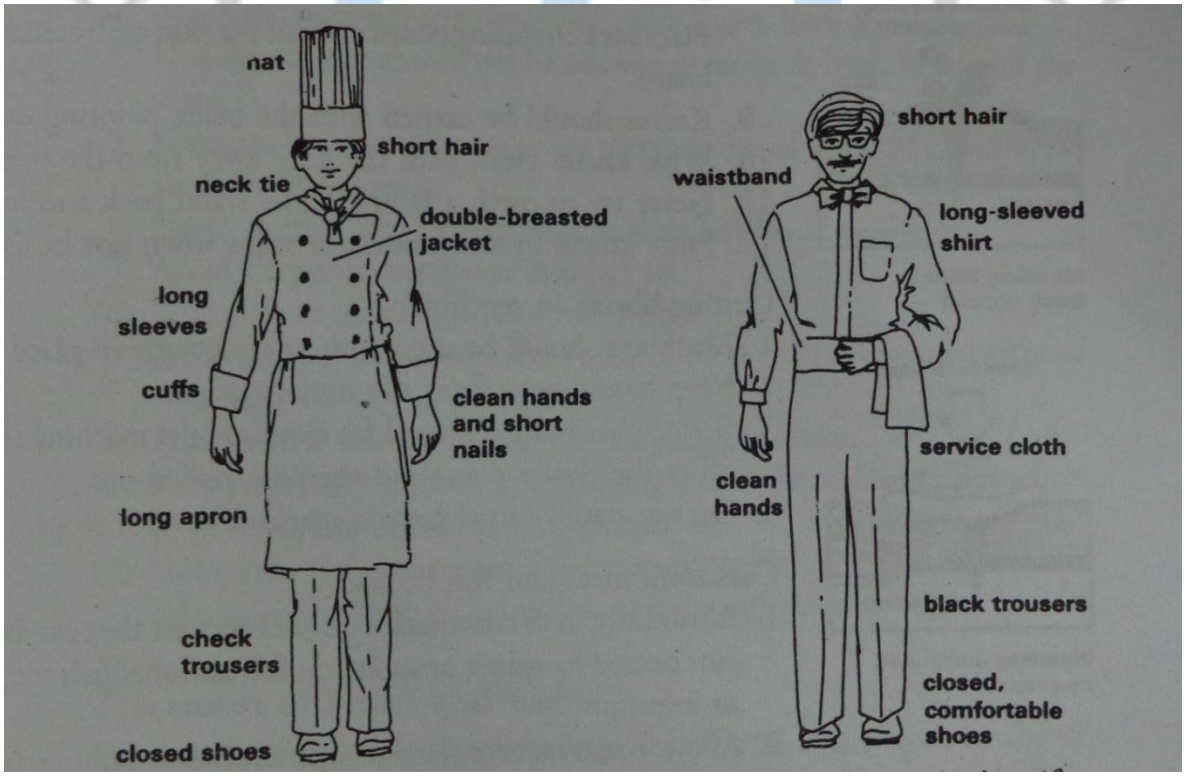
The ear-holes should not be handled whilst in the kitchen as, again, germs can be transferred.

Teeth:

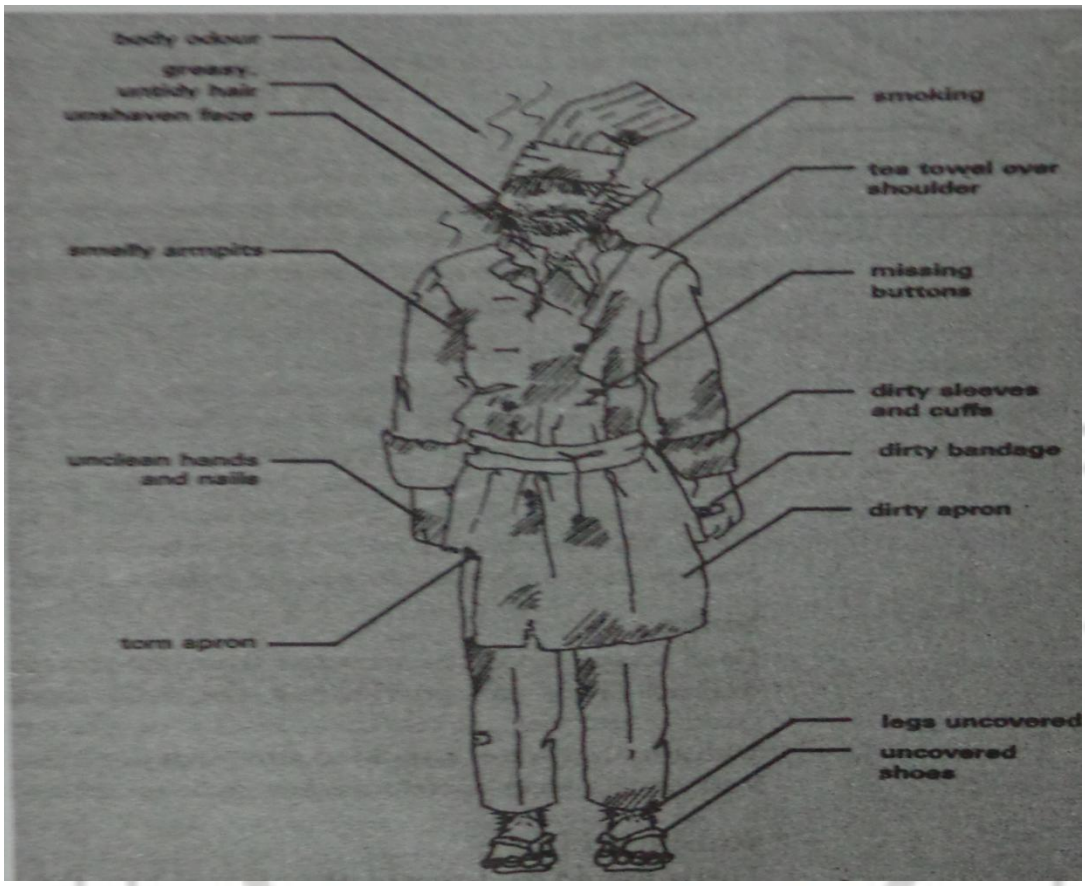
Sound teeth are essential to good health. They should be kept clean and visits to the dentist should be regular so that teeth can be kept in good repair.

Feet:

As food-handlers are standing for many hours, care of the feet is important. They should be washed regularly and the toe-nails kept short and clean. Tired feet can cause general tiredness which leads to carelessness, and these results in a lowering of the standards of hygiene.



Chef-Uniform **Restaurant –Steward**



Dirty/Shabby-Uniform

Cuts, burns, sores, etc.

It is particularly important to keep all cuts, burns, scratches and similar openings of the skin covered with a waterproof dressing. Where the skin is septic, as with certain cuts, spots, sores, carbuncles, there are vast numbers of harmful bacteria which must not be permitted to get on food; in most cases people suffering in this way should not handle food.

Cosmetics:

Cosmetics, if used by food-handlers, should be used in moderation, they should not be put on in the kitchen and the hands should be washed well afterwards. Cosmetics should be put on a clean skin, not used to cover up dirt.

Smoking:

Smoking must never take place where there is food, because when a cigarette is taken from the mouth, germs from the mouth can be transferred to the fingers and so on to the food. When the cigarette is put down the end which has been in the mouth can transfer germs on to the working surfaces. Ash on food is most objectionable and it should be remembered that smoking where there is food is an offence against the law.

Spitting:

Spitting should never occur, because germs can be spread by this objectionable habit.

Clothing and cloths (rubbers):

Clean whites (protective clothing) and clean underclothes should be worn at all times. Dirty clothes enable germs to multiply and if dirty clothing comes into contact with food the food may be contaminated. Cloths (rubbers) used for holding hot dishes should also be kept clean as the cloths are used in many ways such as wiping knives, wiping dishes and pans. All these uses could convey germs on to food. Outdoor clothing, and other clothing which has been taken off before wearing whites, should be kept in a locker away from the kitchen.

General health and fitness:

The maintenance of good health is essential to prevent the introduction of germs into the kitchen. To keep physically fit, adequate rest, exercise, fresh air and a wholesome diet are essential.

Sleep and relaxation:

Persons employed in the kitchen require adequate sleep and relaxation as they are on the move all the time, often in a hot atmosphere where the tempo of work may be very fast. Frequently, the hours are long or extended over a long period of time, as with split duty, or they may extend into the night. In off-

duty periods it may be wise to obtain some relaxation and rest rather than spend all the time energetically. The amount of sleep and rest required depends on each person's need and variation between one person and the next is considerable.

Exercise and fresh air:

People working in conditions of nervous tensions, rush, heat and odd hours need a change of environment and particularly fresh air. Swimming, walking or cycling in the country may be suitable ways of obtaining both exercise and fresh air.

Wholesome food and pure water:

A well-balanced diet, correctly cooked, and pure water will assist in keeping kitchen personnel fit. The habit of 'picking' (eating small pieces of food whilst working) is bad; it spoils the appetite and does not allow the stomach to rest. Meals should be taken regularly; long periods without food are also bad for the stomach. Pure water is ideal for replacing liquid lost by perspiring in a hot kitchen.

Worry:

If possible it is best not to worry, as worrying causes a great deal of ill-health. The catering industry, like most others, has its worrying times and it is well to remember that not only does the job suffer, but health also, if this state of mind is not kept under control.

Health and Safety

Objective: After completing this unit, you should be able to:

- Identify the importance of safety in the workplace
- Identify the key safety hazards within your work area

- Recognize the correct manner with which to safely perform the basic tasks of your job, for the benefit of yourself, you colleagues and the customer.

Activities / information

It is important to remember that "Accidents don't just happen, they are caused". With this in mind the workplace can become a very dangerous place, where every task and action has its own potential hazards. This lesson is intended to help make you aware of the common health and safety hazards with your work area, and so to highlight how important health and safety is to you and the responsibility that you have in always performing your duties in safe manner. This means taking measures to protect people who may be affected by any of work activities within the workplace. This means YOU, YOUR COLLEAGUES and THE GUESTS OR VISITORS who come to your establishment.

Health and Safety – Your part

All accidents at work are costly, both for the injured person and for the company (Hospital expenses, insurance, loss of work, etc.)It is clear then that a policy of "prevention rather than cure" is a better way to tackle problems of health and safety. Imagine any work area within your establishment, everywhere you may look like safety hazards, i.e. broken glass in plastic rubbish bags; wet slippery floors; broken or damaged equipment; loose plugs and wall sockets etc.All of these are disasters waiting to happen, unless you aware of them and can set about doing something about them. This may mean working in a safer way, and not working in a safer way, and not walking past obvious hazards and ignoring them; not leaving your work area untidy; carrying and lifting items correctly and generally doing all the tasks that make up your job in a safe manner. It may also mean alerting your supervisor about a risk or hazards you have spotted.

Following the guidelines below will help you complete your duties safely both to reduce the risk to others and to yourself.

Guidelines for accident prevention: To prevent falls:

- Clean up spillage immediately
- Pick up anything that falls on the floor.
- Never run, wear sensible covered non-slip shoes.
- Do not put anything (i.e. pots, pans, brushes) on the floor.
- Do not leave oven doors open, or trolleys in corridors or stairways.

Guidelines for fire procedures:

- Become familiar with the layout of your premises, and in particular your immediate work area.
- Become familiar with routes to emergency exists.
- Become familiar with the location of fire extinguishers and how to use them, i.e.: fires involving solid material (e.g. paper, wood, textiles).

(Use water type fire extinguishers)

Fires involving liquids (e.g. fat, oil, fat, paint, etc.)

(Use dry powder type fire extinguisher & fire blanket)

Fire involving electrical hazards

(Use dry powder or Co2 type fire extinguishers)

- Become familiar with location of warning systems (i.e. fire alarms)
- Become familiar with what to do in the event of a fire.

What to do in the event of a fire:

- Raise the alarm
- Evacuate the building
- Switch off power (if safe to do so)
- Call for help
- Close windows and doors
- Attack the blaze with suitable extinguishers (if at no immediate personal risk)

NB: IT WOULD BE STRONGLY RECOMMENDED THAT YOU ALSO ATTEND REGULAR FIRE DRILLS WITHIN YOUR WORKPLACE).

Remember always the guidelines for the correct use of knives:

- Use the right knife for each job.
- Make sure that the knife sharp.
- Make sure it is clean and the handle not greasy.
- Always carry knives with the point down.
- Never try to catch a falling knife.
- Hold the sharp edge of the knife away from your hands when you are wiping it clean.
- Cut with the blade facing away from your body.
- When cutting, dicing or chopping always use a proper clean and uncluttered chopping boards that is placed on a firm base.
- Do not leave knives on the dishwashing sink.
- Store knives away safety, i.e. in guards

Guidelines for preventing burns and scalds:

- Wear full protective clothing/ uniform(long sleeves, long apron and strong shoes that cover your entire foot)
- Use a thick cloth when handling hot liquids.
- Carry heavy trays of hot liquid with hands on side and end.
- Turn pan handles away from edges.
- Do not leave handles of pans over naked flames.
- Stand well back when pouring hot liquids
- Drain and dry wet foods to avoid spillages into hot fat.
- Lower foods slowly into deep fat fryers.
- Prevent chemical burns by correctly using cleaning agents.

Guidelines for preventing electrical hazards:

- Know the location of emergency cut-out switches.

- Do not use electrical items with worn or damaged flexes.
- Make sure that the flexes do not trail over work surfaces or in water.
- Keep steam and water hoses away from power points.
- Take care when pulling out mobile electrical equipment, not to strain cable.
- Never use water to put out an electrical fire.

Guidelines for lifting and carrying heavy objects:

- Size up the load; ensure that you are well balanced. (Get help if you need it!)
- Place feet apart, bend knees (not at waist), pick up load.
- Straighten up; use leg muscles not weaker back muscles.
- Carry load close to your body, watch ahead.
- Unload with feet apart, knees bent and back straight.
- Ensure hands and feet are clear from the object being put down.

Guidelines for use of cleaning agents and chemicals:

- Always use the right cleaning agent for the job.
- Use the correct amount of dilution.
- Do not mix cleaning agents.
- Always store cleaning agents in a safe place, secure and away from food.
- Use separate clothes for different cleaning tasks.
- Always wear rubber gloves when using toxic cleaning agents.
- If splashed with chemicals immediately rinse affected area well with clean cold water and seek medical assistance.

Guidelines for dealing with bomb scares and attacks:

In addition to normal emergency procedures considers the following points when a bomb threat is received by a staff member:

- Keep the caller on the line for as long as possible.
- Ask the caller to repeat the message and try to record exact words.
- Obtain as much information as possible about the location of the bomb.
- Warn caller that the building is occupied, and that the explosion could cause many deaths.
- Pay particular attention to background noises that you may hear on the telephone (e.g. engines running, music, etc.)
- Listen carefully to the voice to tell if the caller is male or female, young, old, drunk, calm, exited, etc. Try to determine accent.
- Immediately caller hangs up notify management and the emergency services.
  If in any doubt inform your Supervisor immediately!

Basic First Aid

Objectives: After completing this unit, you should be able to:

- List the aims of first aid and the priorities of treatment for a minor injury or accident
- Recognize the basic techniques that may be used to preserve life prevent injuries from worsening and promote initial recovery.

Activities / Information

It is important to note at the commencement of this unit, that as a basic entrant into the industry, the level of knowledge and application of specialist first aid skills will need only to be limited. This knowledge unit sets out to increase your awareness of basic first aid techniques and responsibilities to help you in your role as a member of staff. The emphasis for you will be to assess the emergency or accident situation and to seek help immediately.

First Aid- Your Part

At any accident or sudden injury situation you must be aware of the FOUR key steps to follow:

1. ASSESS THE SITUATION:

- Appear calm in front of colleagues or guests.
- Take charge- do not panic – stay "cool".
- Ensure safety- If the situation is dangerous to the casualty or yourself, be careful.
- Get help immediately- If you cannot leave the casualty, get another person to call for assistance and also to help you, i.e. to clear the area; or control traffic, etc.

2. DIAGNOSE THE SITUATION:

- Listen to the casualty and others to find out what happened.
- Smell – can you detect burning; gas; or alcohol.
- Look- is there any sign of blood or vomit , does the casualty wear any warning bracelet or locket ; do they have any containers or packets of drugs or medicines; are any unusual symptoms showing (blood, awkward limbs, swelling, bruising, or sweating).

3. **TREAT THE SITUATION (If possible) WHILE AWAITING QUALIFIED SPECIALIST ASSISTNCE:**

Calm the casualty; protect them from cold and damp, handle gently whilst making them comfortable. The Urgent treatment, i.e. easing problems of breathing; heart or severe bleeding difficulties; and important treatments of dressing wounds and supporting injured bones may be attempted ONLY by qualified first aiders.

4. THE MEDICAL SITUATION

As early as possible after the accident/ injury arrangement must be made to move the casualty to a doctor / nurse or to hospital. Any important facts or details about the casualty or circumstances of the accident must be given to the ambulance person; medic or doctor. As soon as possible after the incident, a report giving details of the accident / injury must be made to the

supervisor / manager.Basic treatment of wounds, minor burns, scalds and other minor injuries:

The following guidelines are for the basic treatment of minor injuries:

Wounds

- Pressing directly on a wound flattens the blood vessels and stems the flow of blood.

- Pressure needs to be applied for 5-15 minutes to allow blood to clot.
- Ensure no foreign bodies are present i.e. bone, glass, dirt etc before pressing.
- Press on the wounds with clean dressing, i.e. towel (NOT cotton wool)
- Raise and support any injured limb.
- After for medical attention as soon as possible if necessary.

Burns

There are various types of burns:

DRY

From: Flames, hot, electrical equipment;

COLD

From: ice;

SCALD

From: heat (Steam or fat)

CHEMICAL

From: Acid

ELECTRICAL

From: Electrical current

RADIATION

From: Sun

MINOR BURNS AND SCALDS:

Do's

- Reassure the casualty.
- Immerse area of burns in clean cold running water for at least 10 minutes. (If there is no water available use milk/ lemonade).
- Remove any rings, clothing (unless stuck) before area swells.
- If in doubt seek medical assistance.

Do not's

- Use creams, fat or lotion.
- Use adhesive dressing or plasters
- Burst blisters or remove loose skin.

Electrical injury signs and symptoms:

- Casualty may not be breathing; and the heart may have stopped.
- Possible burns and shocks.

Never touch casualty with bare hands. Switch off the power at mains if possible.

Treatment: - Only by qualified first aider!

- Commence mouth-to-mouth and / or chest compression.
- Treat any burns.

Mouth to Mouth:

1. Clear anything from the mouth, i.e. dentures.
2. Incline head back.
3. Pinch nose closed.
4. Open mouth
5. Seal his mouth with your and blow.
6. Look along chest to see if chest rises fully.

7. Move your mouth away.
8. When your chest falls, take in fresh air and repeat.
9. Once started your continue until casualty breathes on own, or ambulance/ doctor arrives.

Chest Compression:

THIS DOES THE WORK OF THE HEART WHEN IT HAS STOPPED- AND YOUR HANDS MUST BE DIRECTLY ABOVE THE HEART WHEN PRESSING DOWN.

1. Kneel to side of casualty at the ribs.
2. Place one hand on top of other, over the heart (centre of breastbone).
3. Press down 2" approximately every second.
4. Continue until medical help arrives.

Choking:

1. Act quickly- speed is essential. (If casualty can speak, cough or breathe they are not chocking. If not:
2. Give FOUR quick back blows with the heel of your hand. Deliver these sharp blows rapidly and forcefully between the shoulder blades, while supporting the chest of the casualty with the other hand on the breastbone.
3. If unsuccessful give four upwards abdominal thrusts, stand behind casualty and wrap your arms around their waist. Grasp one fist with your other hand and place the thumb side of your wrist in the mid- line between waist and rib cage. Press fist into abdomen with four quick upwards and inwards thrusts. Do not use this procedure for pregnant women or overweight casualties. If necessary repeat sequence. Send Medical help if required.

Clothing in the Kitchen

It is of considerable importance that people working in the Kitchen should wear suitable clothing and footwear. Suitable clothing must be;

1. Protective
2. Washable
3. Suitable Colour
4. Light in weight and comfortable
5. Strong
6. Absorbent

1. **Protective**

Clothes worn in the Kitchen must protect the body from excessive heat. For this reason Chefs' jackets are double-breasted and have low sleeves, they are to protect the chest and arms from the heat of the storve and to prevent hot foods or liquids burning for scalding to the body.

Aprons: These are designed to protect the body from being scald or burned and particularly to protect the legs from any liquids which may be spilled, for this reason the apron should be of sufficient length to protect the legs.

Chef's hat: This is designed to enable air to circulate on to the head, and can help to prevent baldness. The main purpose of the hat is to prevent loose hairs from dropping into food and to absorb perspiration on the forehead.

Footwear: This should be stout and kept in good repair so as to protect and support the feet. As the kitchen staff on their feet many hours, boots for men give added support and will be found most satisfactory.

2. **Washable**

The clothing should be of a washable material as many changes clothing are required.

3. **Colour**

Clothing which is white is readily seen when soiled and needs to changed, and there is a tendency to work more cleanly when wearing whites. Chef's trousers of blue and white check are a practical colour but require frequent changing.

4. **Light and Comfortable**

Clothing must be light in weight and comfortable, not tight. H_____ clothing would be uncomfortable and a heavy hat in the heat of kitchen would cause headaches.

5. **Strong**

Clothes worn in the kitchen must be strong to withstand hard wear and frequent washing.

6. **Absorbent**

Working over a hot stove causes people to perspire, this perspiration should be absorbed, and for this reasons underclothes should be worn. The hat absorbs perspiration and the neckerchief is used to prevent perspiration from running down the body, for wiping the fact and also to protect the neck, which is easily affected by draughts.

Summary of Personal hygiene

The practice of clean habits in the kitchen is the only way to achieve a satisfactory standard of hygiene. These habits are listed below:

- Hands must be washed frequently and always after using the toilet. Food should be handled as little as possible.
- Bathing must occur frequently.
- Hair must be kept clean and covered in the kitchen, it should not be combed or handled near food.
- Nose and mouth should not be touched with the hands.
- Cough and sneeze in a handkerchief not over food.
- Jewellery, rings and watches should not be worn.

- Smoking, spitting and snuff-taking must not occur where there is food.
- Cuts and burns should be covered with a waterproof dressing.
- Clean clothing should be worn and only clean cloths used.
- Food should be tasted with a clean teaspoon.
- Tables should not be sat on.
- Only health people should handle food.

Kitchen hygiene

Neglect in the care and cleaning of any part of the premises and equipment could lead to a risk of food infection. Kitchen hygiene is of very great importance:

- to those who work in the Kitchen, because clean working conditions are more agreeable to work in than dirty conditions;
- to the owners, because custom should increase when the public know the kitchen is clean;
- to the customer – no one should want to eat food prepared in a dirty kitchen.

Kitchen premises

Ventilation

Adequate ventilation must be provided so that fumes from stoves are taken out of the kitchen, and stale air in the stores, larder, still room etc, is extracted. This is usually effected by erecting hoods over stoves and using extractor fans.

Hoods and fans must be clean, grease and dirt are drawn up by the fan and, if they accumulate, can drop on to food. Windows used for ventilation should be screened to prevent entry of dust, insects and birds. Good ventilation facilities the evaporation of sweat from the body, which keeps one cool.

Lighting

Good lighting is necessary so that people working in the kitchen do not strain their eyes. Natural lighting is preferable to artificial lighting. Good lighting is also necessary to enable staff to see into corners so that the kitchen can be properly cleaned.

Plumbing

Adequate supplies of hot and cold water must be available for keeping the kitchen clean, cleaning equipment and for staff use. For certain cleaning hot water is essential, and the means of heating water must be capable or meeting the requirements of the establishment.

- There must be suitable provision of toilets, which must not be in direct contact with any rooms in which food is prepared.
- Hand-washing facilities (separate from food preparation sinks must also be available)
- Cleaning of toilets and sinks
- Toilets must never be cleaned by food-handlers. Sinks and hand basins should be cleaned and thoroughly rinsed.

Floors

Kitchen floors have to withstand a considerable amount of wear and tear, therefore they must be:

- capable of being easily cleaned
- smooth, but not slippery
- even
- without cracks or open joints
- impervious (non-absorbent)

Quarry tile floors, properly laid, are suitable for kitchens, since they fulfill the above requirements.

Cleaning – floors are swept, washed with very hot detergent water and then dried. This can be done by machine or by hand.

Walls

Walls should be strong, smooth, impervious, washable and light in colour. The joint between the wall and floor should be rounded for. Failure to maintain equipment and utensils hygienically and in good repair may cause food poisoning.

Material used in the construction of equipment must be hard so that it does not absorb food materials.Smooth so as to be easily cleaned., resistant to rust, resistant to chipping. Equipment must not be made from toxic materials, for example lead, and food must be protected from lubricants.

Easily cleaned equipment is free from unnecessary ridges, screws, ornamentation, dents, crevices inside square corners, and has large ease of cleaning. Tiling is the best wall surface because it is easily cleaned and requires no further maintenance.

Ceilings

Ceilings must be free from cracks and flaking. They should not be able to harbor dirt.

Doors and windows

Doors and windows should fit correctly and be clean. The glass should be clean inside and out so as to admit maximum light.

Food lifts

Lifts should be kept very clean and no particle of food should be allowed to accumulate as lift shafts are ideal places for rats to gain access into kitchen.

Hygiene of kitchen equipment

Kitchen equipment should be so designed that it can be:

a) Cleaned easily

b) Readily inspected to see that it is clean smooth areas. Articles of equipment which are difficult to clean for example mincers, sieves and

strainers – are items where particle of food can lodge so allowing germs to multiply and contaminate food when the utensil is next used.

Normal cleaning of materials

- Metals: As a rule all metal equipment should be cleaned immediately after use.
- Portable items: Remove food particles and grease. Wash by immersion in hot detergent water. Thoroughly clean with a hard bristle brush or soak till this is possible. Rinse in water 770C.
- Fixed Items: Remove all food and grease with a stiff brush or soak with a wet cloth, using hot detergent water. Thoroughly clean with hot detergent water. Rinse with clean water. Dry with a clean cloth.
- Abrasives should only be used in moderation as their constant scratching of the surface makes it more difficult to clean the article next time.
- Marble: Scrub with a bristle brush and hot water and then dry.
- Wood: Scrub with a bristle and hot detergent water, rinse and dry.
- Plastic: Wash reasonably hot water.
- China, earthenware: Avoid extremes of heat and do not clean with an abrasive. Wash in hot water and rinse in very hot water.
- Copper: Remove as much food as possible. Soak, wash in hot detergent water with a aid of a brush. Clean the outside with a paste made of sand, vinegar and flour. Wash well. Rinse and dry.
- Aluminum: Do not wash in water containing soda as the protective film which prevents corrosion may be damaged. When water is boiled in an aluminum pan a black stain results, this can be removed by using an acid food, e.g. rhubard. To clean, remove food particles. Soak. Wash in hot detergent water. Clean with steel wool or abrasive. Rinse and dry.
- Stainless Steel: Stainless steel is easy to clean. Soak in hot detergent water. Clean with a brush. Rinse and dry.

- Tin: Tin which is used to line pots and pans should be soaked, washed in detergent water, rinsed and dried. Tinned utensils where thin sheet steel has a thin coating of tin must be thoroughly dried, otherwise they are likely to rust.
- Zinc: This is used to coat storage bins of galvanized iron and it should not be cleaned with a harsh abrasive.
- Vitreous enamel: Clean with a damp cloth and dry, avoid using abrasives.
- Equipment requiring particular care in cleaning (sieves, conical strainers, mincers, graters). Extra attention must be paid to these items, because food particles clog the holes. The holes can be cleaned by using the force of water from the tap, by using a bristle brush and by moving the article, particularly a sieve, up and down in the sink, so causing water to pass through the mesh.
- Whisks must be thoroughly cleaned where the wires cross at the end opposite the handle as food can lodge between the wires. The handle of the whisk must also be kept clean.
- Saws and Chopper's mandolins: These items should be cleaned in hot detergent water, dried and greased slightly.
- Tammy cloths, muslins and piping bags: After use they should be emptied, food particles scraped out, scrubbed carefully and boiled. They should then be rinsed and allowed to dry.
- Certain piping bags made of plastic should be washed in very hot water and dried. Nylon piping bags should be boiled.
- Cleaning of large electrical equipment (mincers, mixers, choppers, slicers, etc)
- Switch off the machine and remove the electric plug.
- Remove particles of food with a cloth, palette knife, needle or brush as appropriate.

- Thoroughly clean with very hot detergent water all removable and fixed parts. Pay particularly attention to threads and plates with holds on mincers.
- Rinse thoroughly
- Dry and reassemble.
- Whilst cleaning see that exposed blades are not left uncover or unguarged and that the guards are replaced when cleaning is completed.
- Any specific maker's instructions should be observed.
- Test that the machine is properly assemble by plugging in an switching on.

Food hygiene

The most succulent mouth-watering dish into which has gone all the skill and art of the world's best chefs, using the fines possible ingredients, may look, taste and smell spurb, yet be unsafe, even dangerous to eat because of harmful bacteria.

It is of the utmost importance that everyone who handles food or who works in a place where food is handle, should know food must be both clean and safe. Hygiene is the study of health prevention of disease, and because of the dangers of food poisoning, hygiene requires particular attention from everyone in the catering industry.

There are germs everywhere, particularly in and on our bodies, some of these germs if transferred to food can cause illness and in some cases death. These germs are so small they cannot be seen by the naked eye, yet food which looks clean and does not smell or taste bad may be dangerous to eat if harmful germs have contaminated it and multiplied.

The duty of every person concerned with food is to prevent contamination of food by germs and to prevent these germs or bacteria from multiplying.

Food-handlers must know the Food Hygiene Regulations, but no matter how much is written or read about food hygiene the practice of hygienic habits by people who handle food is the only way to safe food.

Food Poisoning

Fourteen thousand people each year have been found by doctors to be suffering from food poisoning. This is the average number of notified cases for the last ten years, and there are thousands more who have not notified their doctor, but have suffered from food poisoning. This appalling amount of ill-health could be prevented. Failure to prevent it may be due to:

a) Ignorance of the rules of hygiene.

b) Carelessness, thoughtfulness or neglect.

c) Poor standards of equipment or facilities to maintain hygienic standards.

d) Accidents.

Food poisoning can be prevented by:

1. High standards of personal hygiene.
2. Attention to physical fitness
3. Maintaining good working conditions
4. Maintaining equipment in good repair and in clean condition.
5. Adequate provision of cleaning facilities and cleaning equipment
6. Correct storage of foodstuffs at the right temperature.
7. Correct reheating of food.
8. Quick cooling of foods prior to storage.
9. Protection of foods from vermin and insects.
10. Hygienic washing up procedure.

11. Food-handlers knowing how food poisoning.

12. Food-handlers not only knowing but carrying to prevent food poisoning.

Food poisoning- what it is.

Food poisoning can be defined as illness characters pains and diarrhea and sometimes vomiting, developing within 1-36 hours after eating the affected food.

Causes of food poisoning

Food poisoning results when harmful foods are eaten. They may be harmful because

a) Chemicals have entered the food from humans, animals or other sources and the bacteria themselves, of the toxins (poisons) produced in the food by certain bacteria, have caused the foods to be harmful. By far the greater number of cases of food poisoning is caused by harmful bacteria.

Chemical food poisoning

Certain chemicals may accidentally enter food and cause food poisoning.

- Arsenic is used to spray fruit during growth, and occasionally fruit has been affected by this poison.
- Lead poisoning can occur from using water that has been in contact with lead pipes and then drunk or used for cooking.
- Antimony or zinc: Acid foods if stored or cooked in poor quality enameled or galvanized containers can also cause poisoning.
- Copper pans should be correctly tinned and never used for storing foods, particularly acid foods, as copper can be affected by them.

Certain plants are poisonous – for example, poisonous mushrooms or fungi. Rhubarb leaves and the parts of potatoes which are exposed to the sun above the surface of the soil are also poisonous.

Prevention of chemical food poisoning

Chemical food poisoning can be prevented by

a) Using correctly maintained and suitable kitchen utensils

b) Obtaining foodstuffs from reliable sources

c) Care in the use of rat poison, etc.

Bacterial food poisoning

Food contaminated by bacteria (germs) is by far the most common cause of food poisoning.

Bacteria

Bacteria are minutes, single-celled organisms which can only be seen under a microscope. They are everywhere in our surroundings, and as most bacteria cannot move by themselves they are transferred to something by coming into direct contact with it.

Some bacteria form spores which can withstand high temperatures.

When you are working, pay special attention to the personal habits of which you may be unaware, but can easily spread bacteria, i.e.,

- Do not comb your hair or put on make-up in the food or public areas
- Do not spit, cough or sneeze openly in Food or Public Areas, use a tissue and wash your hands afterwards.
- Do not pick your nose or teeth, or scratch your head.
- Do not smoke in the work or public area.
- Do not use your apron or part of your uniform to wipe your hands, as they will contaminate your hands.
- Do not lean or sit on work surfaces

- Do not leave clutter behind you clear up, wash and put away equipment and utensils.
- Do not leave rubbish and waste material lying around, put into covered refuse bin.
- Only hand washing will keep your hands clean!

HOW TO HANDLE EQUIPMENT AND UTENSILS

When handling crockery, glassware, utensils or equipment, remember to pick them so that your hand does not touch the "food contact surface", i.e., the part on which food will be placed, or, which a customer would touch. This will help avoid contamination between your hands and the equipment you are handling.

- Handle plates by the outer rim or underside; cups by the handle, glasses by the stem base, and cutlery by the handle.
- Remove and destroy cracked and broken crockery/glassware or kitchen utensils.
- Use fork or tongs to pick up food if Practical, not your hands.
- Avoid handling food unnecessarily.
- Use a special spoon for tasting – not your fingers.
- Make sure that all crockery, glassware, equipment and utensils are washed thoroughly and are stored on clean surfaces.
- Keep your work table/area clean. Clean it well at the end of the day.
- Keep all utensils clean and put away neatly after use.

TEN POINT GENERAL PERSONAL HYGIENE CODE FOR STAFF

- Always wash your hands before commencing work, and always after.
- Tell your supervisor at once of any skin, nose, throat or bowel movements.
- Cover cuts, sores with waterproof dressings.
- Adhere to the company dress code and always wear clean clothing and be clean.

- Remember that smoking in public areas whilst on duty is forbidden and dangerous.
- Keep your work area clean and tidy. Keep equipment and utensils clean.
- Keep a daily routine of personal cleanliness.
- Never spit, cough or sneeze openly, use a handkerchief.
- Keep a spare clean uniform available to change into at short notice.
- Remember the law requires clean, fully equipped, well lit and airy conditions for work areas.

TEN MAIN REASONS FOR FOOD POISONING

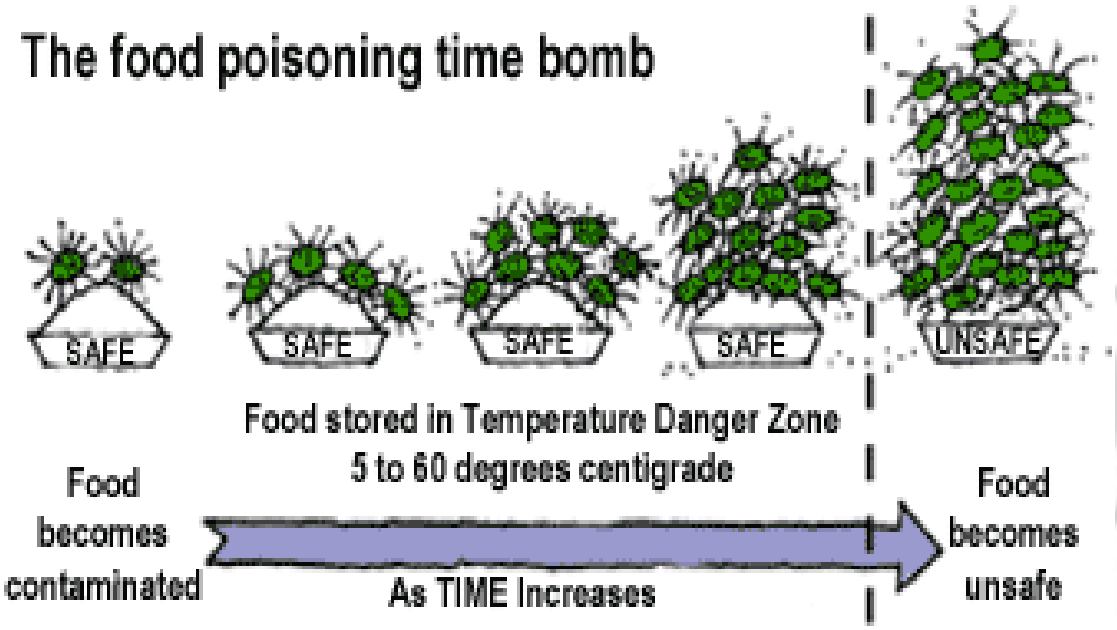
1) Food prepared too far in advance and stored at room temperature, i.e., not under refrigeration.
2) Cooling food too slowly prior to refrigeration.
3) Not reheating food to high enough temperatures to destroy food poisoning bacteria.
4) The use of cooked foods contaminated with food poisoning bacteria.
5) Undercooking.
6) Not thawing frozen poultry for sufficient time.
7) Cross-contamination from raw to cooked food.
8) Storing hot food at too low a temperature.
9) Contamination from infected food handlers.
10) Re-use and reheating of leftover food items.

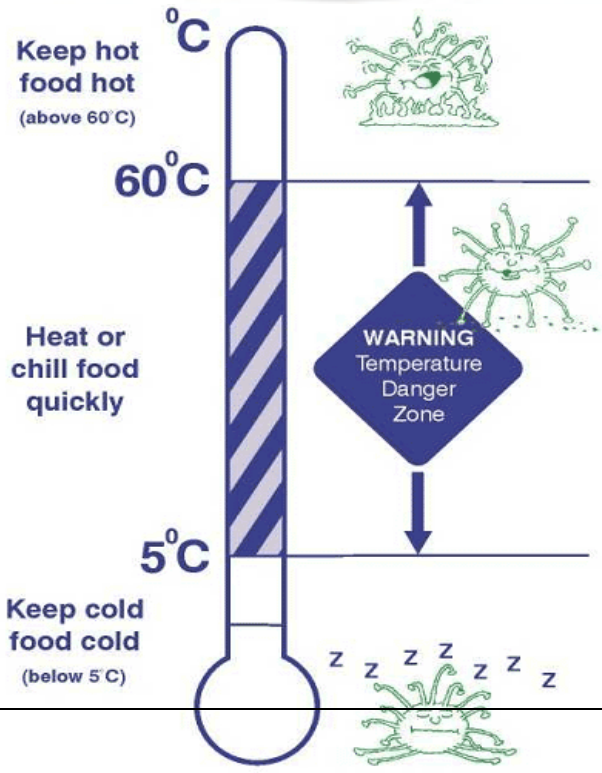
Remember: Bacteria need:

WARMTH : FOOD AND MMOSITURE : TIME

Remember:

Keep high-risk foods out of the “DANGER-ZONE”





Bacteria Die

Avoid

Keeping in danger Zone

Bacteria Grow

Bacteria Die

WHAT ARE THE HIGH RISK FOODS

All cooked meat and poultry : Cooked meat products and gravies/sauces, Milk, Cream, custards, dairy produce : Cooked Rice, Cooked Eggs, egg products, i.e., mayonnaise : Shellfish and other seafood.

WHAT CAUSES FOOD POISONING?

Bacteria : Viruses : Chemicals : Metals : Poisonous plants.

HOW DOES FOOD BECOME CONTAMINATED?

- The people commonly harbor germs and directly contaminate food with their hands, sneezing, coughing or through sewage contaminating water.
- Raw food is particularly dangerous, red meat and poultry are heavily infected, milk, eggs and shellfish also. Liquid from defrosted poultry must not be allowed to contaminate wiping cloths, high-risk food or equipment.
- Soil on raw vegetables must be removed.
- Insects and dust carry bacteria into food areas and on to food and food surfaces.
- Dead flies can fall into food and cockroaches carry bacteria.
- Rodents and animals carry bacteria around can contaminate food and food surfaces.
- Refuse and waste attracts flies and must not be allowed to contaminate food or food surfaces.

- Sometimes, harmful bacteria pass directly from the source of high risk food, you must be aware of the risks of transferring harmful bacteria by hands, cloths, food surfaces and hand contact surfaces (door handles, toilet handles, etc)

TO PROTECT FOOD FROM CONTAMINATION

Do:

- Keep food covered whenever possible.
- Only handle food using tongs, plates and trays.
- Separate raw from high risk foods at all times.
- Separate equipment for use with raw and high risk foods at all times.
- Prevent insects, animals and birds entering food rooms or touching food.
- Store food in tightly lidded rodent proof containers.
- Maintain the highest standards of personal hygiene at all times.
- Wear suitable protective clothing provided for food handlers.
- Remove unfit or waste food promptly and keep apart from high risk food.
- Keep food and equipment off the floor.
- Ensure that liquid from thawed frozen meat/poultry does not come into contact with high-risk food or food surfaces.
- Use the correct cleaning and disinfection procedures.

TO PROTECT FOOD FROM CONTAMINATION

Don't:

- Use unsuitable, defective or dirty equipment.
- Use dirty wiping cloths.
- Handle parts of crockery or cutlery that comes into contact with food.
- Use wash-hand basins for washing food or food equipment.

All the food will contain some bacteria, though it is important that apart from preventing further contamination from harmful food poisoning bacteria, action is taken to prevent bacteria in food from multiplying.

- Do: store food out of the "danger zone', i.e., +5oC to + 60oC
- Keep foods in the refrigerator or in a heated oven/bain marie, or not at all
- During preparation keep high risk foods out of the "Danger zone".
- Use preservatives such as sugar or salt.
- Keep dried foods free from moisture.
- No food must be kept at temperatures which would result in a risk to health.

GENERAL RULES FOR FOOD HANDLERS

- All equipment, fixtures and fittings must be clean before preparation begins.
- Raw food must always be kept separate from high risk food at all stages of food preparation.
- Frozen meat must be completely thawed before cooking.
- Thawing must be carried out separately from other activities.
- All meat must be cooked thoroughly.
- All reheated foods must be thoroughly reheated and consumed immediately.
- Cooked food must be protected from contamination at all times.
- Food must not be removed from the refrigerator until required for service.
- Stored food must be rotated to prevent spoilage, waste and infestation.
- Drying cloths must be kept clean.
- Spillages must be cleaned promptly.

- Animals must not be allowed to enter food rooms.
- Infestation of insects or rodents must be reported immediately.

APPERANCE

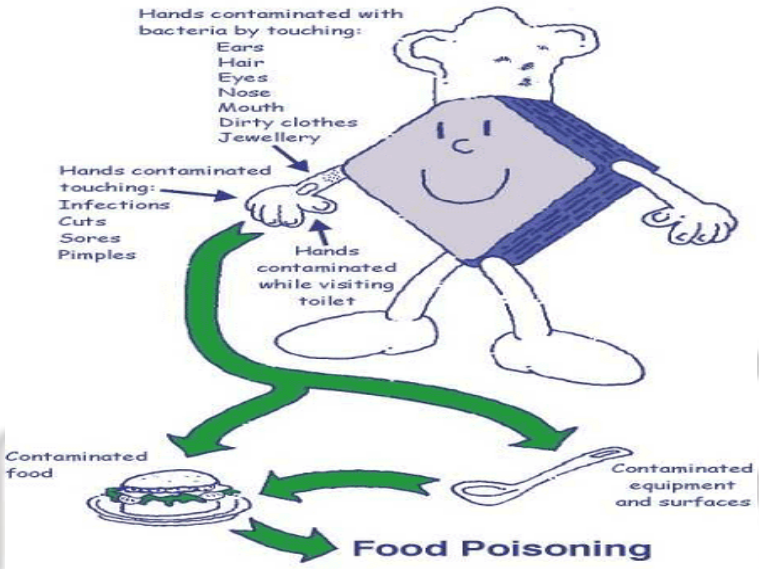
- Clean skin, hands, hair
- Clean clothes
- Clean teeth
- Clean shoes
- Use of a deodorant
- Short and tidy hair

STARTING WORK

- Starting the work shift properly is very important factor in the smooth daily operation of the kitchen.
- At all times, keep in mind the two factors,
    - Safety
    - Security

When you start the work shift, you need to:

- Unlock doors, cupboards.
- Switch on electricity
- Turn on gas/water
- Light gas stoves, ovens, salamanders if needed straight away
- Switch-on power driven machines and equipments if needed
- Fill the Bain-Marie and switch on
- Stock the kitchen
- Arrange tools, utensils and equipment
- Obtain and distribute clean linen
- Requisition and arrange raw materials
- Confer on the day's work plan
- Always be on time to start work



KITCHEN RULES

1) Be in uniform and ready to start work on time
2) Wash hands before commencing work
3) Work quickly but maintain control, remember safety comes first.
4) Keep the work area clean and tidy at all times.
5) Stand upright with good posture to avoid fatigue.
6) Keep cupboards, drawers tidy
7) Be smart and clean in your appearance
8) Discard waste in bin and remember to replace lid.

Unit-5-RAW MATERIALS USED IN BAKERY

Raw materials used in Bakery:

1. Flour:

Flour is the principal ingredient for Bakery products so it is important to understand the types and composition of flour. Flour is obtained by milling Wheat. Wheat is generally classified according to the colour and hardness of grain. Hard wheat yield flour that is high in good quality protein. Such flours

have high water absorption power (WAP), good mixing and fermentation tolerance and good gas retention power and are excellent for bread making. Soft wheat have lower amount of proteins and absorb less water. Such flours are good for cakes, Soft dough biscuits and cookies but are unsuitable for bread making.

Storage:

Flour matures and improves in colour while storing. Flour bags should be piled off the flour on skids to enable free circulation of air all around the piles. The storage area should be well ventilated. Flour should be kept away from direct sun light. Temperature of storage area should be 65-75 deg. F or 19-24 deg. C and relative humidity between 55- 65%. Too low or too high relative humidity are both detrimental to flour quality. Flour has a tendency to pick up foreign odour and should be stored away from such ingredients which may impart odour. While storing it must be ensured that the flour is free from insect infestation.

Composition of flour:

Starch: 71.5 to 74.5%

Moisture: 13.5% to 14%

Protein : 7% to 10% (gluten)

Protein: 1% (soluble)

Sugar: 2% to 2.5%

Fat : 1%

Ash: 0.5% (mineral salts)

Starch:

Starch consists of microscopic granules or cells. Although starch is not soluble in water, it absorbs moisture through its cells and hence the

necessity of protecting flour from too humid atmosphere. When starch is heated to about 140 deg F with about six times of its weight of water, starch cells swell and cell wall bursts. Starch becomes soluble in water and in concentrated form will form a gell. The process is known as gelatinization.

Moisture:

The next important constituent of flour is moisture. A level of 13 to 14% moisture content in flour is ideal from bakers point of view. If moisture in flour is higher the baker will be getting less solid material and more of water for his money. Higher moisture will warm up the flour during storage and will induce insect infestation, reducing its storage life. If the moisture content of flour is high, it will reduce the water absorption power(WAP) of the flour resulting in less yield.

Protein:

Flour contains soluble and insoluble proteins. Soluble proteins are useful in providing nourishment to yeast for its growth and reproduction during fermentation process. Two insoluble proteins Gliadin and glutenin form a rubbery material when water is added to flour and mixed. This rubbery material is known as gluten and is responsible for formation of structure of baked products. High structured products like bread will require stronger quality of gluten while lower structure products like cakes, cookies do not require strong gluten. Glutenin gives strength to the dough in order to enable it hold gases during baking operation and gliadin gives elastic or stretching properties to dough. The quantity and quality of these two proteins present in the flour determine the quality of flour which is termed as strong, weak or medium. These terms should not be confused with hard or soft because these terms specify the type of wheat from which the flour is milled. An understanding of the quantity and quality of gluten will be of

great help to a baker in adjusting his formulation/processing most suitable for a particular type of flour.

Ash content:

Ash content of flour is indicative of the degree of its purity with respect to bran fragments. Higher ash content means that the flour contains too much of bran fragments. Apart from darkening the colour of flour the bran fragments also have a cutting action on gluten fibers. Such flour will not retain gas during different stages of processing and the product thus made will have a low volume and poor texture.

2. Sugar:

Small quantity of sugar which is naturally found in flour is sucrose or maltose type. Even if sugar is not added to bread formula, it should be possible to make bread as the sugar naturally occurring in flour will provide sufficient food to yeast to produce CO2 gas. However apart frpm providing food for yeast sugar has other functions to perform viz retaining moisture in bread, imparting golden colour to crust, improving taste and flavour to bread etc. These beneficial effects cannot be achieved with the limited amount of sugar naturally occurring in flour. Hence the necessity for using additional sugar in bread formula.

3. Yeast:

After flour yeast is next important ingredient for bread making. In olden days most of the bakers used barm method of bread making. A liquid media was made with hops decocton, boiled potatoes, sugar, flour etc. in which wild yeast was cultured. It was necessary to use prolonged fermentation. Due to prolonged fermentation periods bread had the peculiar fermentation flavor which is still remembered by people nostalgically. However times have changed baker's yeast is easily available and baker's botherations about uncertainties of fermentation have been eliminated. It is necessary to

understand the functioning of yeast to control yeast activity in doughs and thus control the quality of bread and other fermented products. Bread doughs are basically fermented for two reasons:

1. Production of carbon dioxide gas which gives volume to the product
2. For maturing or conditioning the dough (gluten) so that it attains sufficient mellowness to stretch under the pressure of CO2 gas and form the structure of the product. These functions are performed by yeast . Let us see how:

   Yeast requires food in the form of simple sugar, moisture and temperate climate for its growth and reproduction. When yeast cell is placed in a liquid medium at optimum temperature (80 deg F to 85 deg F) containing simple sugar (dextrose or fructose) then the cell starts growing buds on its cell wall which keeps on growing until daughter cells acquire the same size as mother cells. Then the buds separate from mother cell and start producing other buds. The protoplasm of yeast contains certain enzymes by which fermentation activity of yeast is made possible. Although the amount of yeast in bread is not large but it is worthwhile to note that yeast itself is one of the finest foods. It supplements bread with proteins of the highest order, certain valuable nutritive minerals and particularly vitamin B and C which are so essential for the growth and health of human body.

   Storage of yeast:

   Compressed yeast can be stored in refrigerator which should be maintained at 45 deg F. Although it is claimed that dried yeast can be stored at room temperature it is advisable to store it in refrigerator if it is desired to stock it for any appreciable length of time in order to meet any emergency requirement.

4. **Water:**

Water binds together the insoluble proteins of flour which form gluten. Any water which is fit to drink can be used for bread making. However it should be remembered that water being a very good solvent is rarely found in nature without any minerals dissolved in it. Hard water contains more minerals than soft water. These minerals in limited quantities have a beneficial effect on gas production as the yeast requires minerals for vigorous fermentation. The gas retention of dough is also improved as minerals have tightening action on gluten.

5. **Salt:**

Salt imparts taste to bread. It is also one of the main constituent to bring out the flavor in bread. It has a controlling effect on yeast activity and thus keeps the fermentation speed under check. As the salt has a tightening action on flour proteins it improves the gas retention power of the dough. It helps to keep the bread fresh and moist for longer time. The colour of crust is largely dependant on the amount of sugar present in bread at the time of baking and this amount of sugar will depend on the speed of yeast activity which in turn is controlled by salt. Therefore if there is less salt in the formula yeats action will be more than normal and there will be less sugar left for caramelization resulting in poor crust colour. Conversely more salt in formula will produce a bread with harsh red srust colour as ther will be more sugar left at the time of baking due to check on yeast activity.

6. **Fat:**

Fat is used in bread dough at the rate of 1 to 2%. To that extent it improves the nutritive value of bread. In small quantities it has lubricating effect on gluten strands thus improving their extensibility which enables the bread to acquire good volume. In larger quantities fat exerts a dead weight on fine web like structure thus hampering the volume of bread. Fat also helps in retention of moisture in bread and

improves its sliceability. Fat should be added during the last stages of mixing. If it is added in the beginning, it will have an adverse effect on water absorption power of the flour.

7. **Milk:**

   Apart from improving the nutritional value of bread milk has a beneficial effect on the physical qualities of bread. It has a tightening effect on flour proteins which improves the gas retention power of dough thus producing a very fine web like structure which is soft and silky. Milk improves the flavor and taste of bread. Due to the presence of lactose sugar the crust colour and water retention power of bread is improved. Addition of milk in a formula necessitates addition of extra water to bring the dough to a soft and pliable consistency. Milk has a drying effect on the eating quality of bread. To counter this drying effect the quantity of fat should be increased in the formula. Milk can be used in bread in any form I,e fresh liquid milk, condensed milk, whole milk powder, skimmed milk powder etc.

8. **Egg**:

   Egg contains proteins, fat and lecithin. Fat and lecithin help in keeping the bread moist and soft due to their modifying action on gluten. Protein of egg has strengthening action of flour proteins which improves volume and crumb structure of bread. Most important function of egg is to provide structure to the cake, act as aerating agent, provide moisture to the cake, acts as an emulsifier, imparts colour, improves taste, flavor and nutritional value.

Unit-6-PROCESSING

Processing:

After the raw material for bread making is correctly selected, the formula should be correctly balanced. Strength of flour,type of product to be made, fermentation time to be given, are some of the basic factors

to be taken into consideration while balancing the formula. After balancing the formula, the raw material should be weighed accurately. Importance of correct weights of raw material cannot be over emphasized.

1. Mixing:

While the flying ferment is under way, other ingredients are weighed are prepared. Flour is sifted, salt and sugar are dissolved in water and if any foreign matter is present should be strained through cloth; If the fat is granular, it should be melted without effecting any appreciable rise in temperature.

The dough could be mixed by hand as well as by machine. If machine is used, water with salt, sugar, bread improvers is added to the bowl first, then flour is added and mixed at low speed then ferment is added and dough is developed.

All the flour, yeast, water, yeast food is mixed sufficiently to make a homogeneous mass. At this stage , aim is not develop gluten which is accomplished in the second operation. The dough is fermented for a short period . The remaining ingredients i.e. salt, sugar, fat is added during second mixing. Fat should be added at the last stage of mixing allowing just sufficient time for its even, thorough dispersal. If fat is added at the early stage, it will adversely affect the water absorption, and also the gluten development.

2. FERMANTATION:

After the dough is correctly mixed, it is fermented for a predetermined time."Although" Fermentation" has been discussed under the paragraph on "Yeast" it is worthwhile to repeat it again.

Fermentation is a process whereby yeast organisms feed on sugar and produce CO2,gas and alcohol.CO2, gas raises the dough fabric. Part of

alcohol evaporates, Part is converted into acetic acid and the remaining contributes to the characteristic flavor of bread.

3. **Knock back:**

After the (straight) dough is fermented for two third of its estimated fermentation time, it is knocked back. The process of knocking back should be carried out correctly by extending the sides of the dough and putting it in the center, so that the while mass of the dough comes in contact with fresh air and the dough is virtually turned upside down.

1. When the dough is fermenting, the temperature of the upper surface is lower than the temperature of the bottom part of the dough. This variation in dough temperature causes variations in the speed of fermentation in different parts of the same dough. By knocking back correctely the temperature of the whole mass of dough is fairly equalized and fermentation speed becomes even.
4. **Dividing and rounding:**

   The dough is cut into pieces of desired weight according to the size of the mould.While dividing the dough by hand, it is desirable to cut the dough with a regular dough cutter. Pulling and breaking the dough should be avoided as it disturbs the trend of gluten strands thereby adversely affecting the final texture of the product.

   When dough is cut, the cut surface is exposed while the remaining surface has a stretched gluten film. It is obvious that some gas will escape from the cut surface(technically known as bleeding)and the condition of the dough pieces will be aneven. If the piece is moulded in this state, the texture of bread will also be uneven. Therefore , the dough piece is rounded in order to make it uniform.

   The process is known as rounding or handing up.
5. **Intermediate Proofing:**

Whenever a fermented dough is handled, some of the gas escapes and gluten strands collapse, making the dough tight. If the dough piece is

manipulated when it is in tight condition, it will tear off leaving a rough surface. The torn surface will allow escape of gas which will have adverse affect on the texture of bread. Therefore, before manipulating the dough further , it should be rested for 10to15 minutes. During this period , The piece is again filled with gas and gluten comes back to its pliable condition making further handling possible without tearing. This resting of the rounded dough piece is known as "Intermediate Proofing."

6. Moulding and Panning:

The dough piece, soft and pliable after intermediate proof, is moulded according to the desired shape of the finished product. While moulding the dough piece, it should be remembered that the pressure is even through out the dough piece. Uneven pressure will leave gas pockets of uneven size in the dough piece which will eventually result in uneven texture. Secondly; the dough piece should not be moulded too tight or too loose. Too tight moulding may tear off the surface which should remain smooth and may also increase the proofing time. Too loose moulding will open up the texture to an undesirable extent. Moulded pieces are put into clean and well greased pans of appropriate size. Too little or too much dough according to the size of the mould and weight of the dough should be 35ccPer10g. of dough(6cu. In Per oz. of dough).

7. Proofing:

After panning, the bread is proofed in suitable conditions(temperature-95to98deg.F, Relative humidity-80to%) to allow it to rise again and acquire volume. The process is known as proofing.

8. Baking:

After the bread has acquired full volume, it is baked. The temperature and humidity of the oven should be well maintained in order to get good results. The temperature of the oven is set according to the

quantity of product to be baked, its size and its formulation. Normally, bread products are baked between 400-480deg. F. Open top loaves are baked at lesser temperature than sandwich bread. Further, if a formulation contains more than 6% sugar or any amount of milk solids, the product should be baked at lesser temperature. Similarly, large size products are baked at higher temperature than small size products.

9. Cooling:

Bread should be released from the mould immediately after baking, otherwise the moisture trapped between the bread and surface of the mould wil make the product soggy, technically known as "Sweating". When the bread is withdrawn from the oven after baking, the process of moisture evaporation continues as long as it is warm.

10. Packing:

Bread is packed in order to preserve its freshness and to protect it from the hazards of external contamination. Air tight wrapping is not advisablein tropical climate. The bread should be allowed to breathe but not unduly exposed. Wax paper or indented poly propylene material will serve the purpose satisfactorily.

Unit-7-Oven in Bakery

An oven is a thermally insulated chamber used for the heating, baking or drying of a substance

Types of Oven

Earth oven: An earth oven is a pit dug into the ground and then heated, usually by rocks or smoldering debris. Historically these have been used by many cultures for cooking. Cooking times are usually long, and the process is usually cooking by slow roasting the food. It is also important to note that earth ovens are amongst the most common things Archaeologist look for at

an anthropological dig, as they are one of the key indicators of human civilization and static society.

Ceramic oven: The ceramic oven is an oven constructed of clay or any other ceramic material and takes different forms depending on the culture. The Indians refer to it as a tandoor, and use it for cooking. They can be dated back as far as 3,000 BC, and they have been argued to have their origins in the Indus Valley.Brick ovens are also another ceramic type oven. A culture most notable for the use of brick ovens is Italy and its intimate history with pizza. However, its history also dates further back to Roman times, wherein the brick oven was used not only for commercial use but household use as well.

Gas oven: One of the first recorded uses of a gas stove and oven referenced a dinner party in 1802 hosted by Zachaus Winzler, where all the food was prepared either on a gas stove or in its oven compartment. In 1834, British inventor James Sharp began to commercially produce gas ovens after installing one in his own house. In 1851, the Bower's Registered Gas Stove was displayed at the Great Exhibition. This stove would set the standard and basis for the modern gas oven. Notable improvements to the gas stove since include the addition of the thermostat which assisted in temperature regulation; also an enamel coating was added to the production of gas stoves and ovens in order to help with easier cleaning.

Masonry oven: Masonry ovens consist of a baking chamber made of fireproof brick, concrete, stone, or clay. Though traditionally wood-fired, coal-fired ovens were common in the 19th century. Modern masonry ovens are often fired with natural gas or even electricity, and are closely associated with artisanal bread and pizza. In the past, however, they were also used for any cooking task that required baking.

Microwave oven: An oven that uses micro radiation waves as a source of heat in order to cook food as opposed to a fire source. Conceptualized in 1946, Dr. Perry Spencer allegedly discovered the heating properties of microwaves while studying the magnetron. By 1947, the first commercial microwave was in use in Boston, Mass.

Wall oven: Wall ovens make it easier to work with large roasting pans and Dutch ovens. A width is typically 24, 27, or 30 inches. Mounted at waist or eye level, a wall oven eliminates bending. Or you can nest it under a countertop to save space. A separate wall oven is expensive compared with a range.

OPERATING PROCEDURE:-

- Switch on the oven, set the temperature and allow it to reach the point.
- Always load the lower compartment first
- Load each shelf evenly spacing trays away from each other and sides of the oven
- Never add more after the food has already started to bake or it would result in uneven baking
- Open door as few times as possible.
- Once the baking is over switch off the oven

CARE:

- Switch off the oven and allow to cool down until it reaches room temperature
- Remove all the detachable shelves or racks and clean separately
- Use clean cloth and hot soap solution and wipe the oven completely
- Dry the oven after cleaning
- Put back all the shelves and racks
- Check the insulation and repair if required.

Unit-8-BREAD MAKING METHOD

Bread making methods:

Present day bread production scenario has changed to a very large extent in comparison with conventional methods. High speed machines and modern technology has made it possible to produce more, of a better quality and within shorter time. However; in spite of the benefits of modern technology, it is necessary for a student to understand the conventional methods which is like a stepping stone to modern practice.

1. Straight dough method:

In this method all the ingredients are mixed together, and the is fermented for a predetermined time. The fermentation time of a straight dough depends on the strength of flour. Strong flours are require more fermentation time to adequately.

Flours which require 2to3 hours for maturing should be used for making bread by straight method. Flours that take very long period for maturing should not be used in straight method because during prolonged fermentation periods it is very difficult to control the temperature of dough and rise in temperature will invariably cause acid taste and flavor in bread. As temperature rise has immediate effect on

fermentation speed, it is very necessary to control the temperature of a straight dough by;

1. Using shorter fermentation periods,
2. Adjusting the temperature of doughing water
3. By fermenting the dough at optimum (room) temperature i.e. between 78deg.80deg. F.

When it is desired to ferment a straight dough for longer period, it should remembered that gluten will soften up to a greater extent and is likely to become stickly: therefore the dough should be made tighter. Yeast content should be reduced but sugar content be increased in order to provide food during prolonged fermentation. Salt content is increased as it provides stability to the dough and keeps the fermentation speed under control which is necessary during long fermentation period.

2. Salt delayed method:

This is slight variation of straight method, where all the ingredients are mixed except salt and fat , as the salt has a controlling effect on enzymatic action of yeast, the speed of fermentation of a salt less dough will be faster , and a reduction in total fermentation time could be affected. The salt is added at the knock back stage. The method of adding salt at the later stage may be according to the convenience of individual baker.It may be sifted(dry) on the dough and mixed.

3. No dough time method:

In this method the dough is not fermented in the usual manner. It is just allowed to brief period (about 30 min.) for it to recover from the strains of mixing. Since dough is not fermented the twin functions of fermentation (i.e. production of gas and conditioning of gluten) are

achieved to some extent by increasing the quantity of yeast (2 to 3 times of original quantity) and by making the dough little slacker and warmer. Although it is possible to make fairly acceptable bread (during emergency) by using this method the product has poor keeping quality and lacks in aroma. Due to absence of fermentation the gluten and starch are not conditioned sufficiently to retain the moisture and there is no flavor because it quantity of yeast present, the bread may have a strong yeast flavor.

4. Sponge and dough method:

In this method, as a first step, a part of flour, proportionate amount of water, all the formula yeast and yeast food are mixed together. Longer fermenting:

Sponges may contain some amount of salt also. Mixing operation is carried out just sufficiently to incorporate all the ingredients evenly. This sponge is fermented for a predetermined time. Sponge fermentation time depends on the amount of flour in the sponge and flour quality. The quantity of flour in sponge depends on the strength of flour. If the flour is too strong , more quantity should be used in sponge and in turn the sponge should be fermented for longer duration.

It is advisable to test the sponge physically for its readiness before mixing it into dough.

When the sponge is ready, it should be broken down properly with formula water, so that its even mixing in the dough is assured. Uneven mixing of sponge in the dough should be avoided as it produces uneven results in the bread.Broken down sponge is mixed with the remaining flour, sugar, salt, fat, etc. Mixing operation should be carried out to the right degree as has been mentioned in previous chapter. If two different kinds of flour at hand, the weaker flour should be used at the time of dough making.

After the dough is mixed, it is rested for 30to 45 min. during which time it relaxes from the stress of mixing operation. Preconditioned gluten of the sponge hastens the conditioning process of the gluten of fresh flour during this period and the dough is in perfect state for further manipulation i.e. cutting, moulding etc.

5. Ferment and dough process:

This is a variation of sponge and dough method. Very often a (bread product) formula may contain milk, eggs, substantial quantity of fat and sugar as in the case of sweet bread, Danish pastry and other sweet fermented products. All these formula ingredients will have a retarding effect on yeast activity. If all the formula yeast, part of flour, yeast food and sufficient water (to make a fluid better as in the case of flying ferment) are mixed together, the yeast gets initially an environment which conductive to vigorous activity and at end of fermentation time(of ferment) it is in a fit condition to take on the extra load of fermentation in the presence of milk, eggs, excessive fat, etc. Fermentation time of a ferment depend on the formulation of the product desired to be made and the flavor desired in the product but very often it becomes a matter of individual preference eg.some bakers may take the ferment (for mixing) after it is dropped by itself, while others may take it just prior to dropping and some may allow time even after it has dropped. A ferment containing milk should be guarded against over fermentation as it will develop more than desirable quantity of lactic acid which in turn will affect the flavor, taste and texture of the product.

When a ferment is ready, it is mixed into dough, Along with the remaining ingredients and allowed to ferment for the second stage of fermentation before the dough is taken up for make up. This method is used for making enriched bread, buns, Danish pastry, sweet dough, doughnuts, etc. where the speed is necessary.

Unit-9-CHARACTERSTICS OF GOOD BREAD

Bread faults:

There are a number of which may be responsible for creating faults in bread. However, some of the major factors which adversely influence the quality of bread are as follows:

- Inferior quality and in adequate quantity of gluten in the flour.
- Poor or excessive diastatic activity.
- Disproportionate quantities of raw material i.e. imperfectly balanced formula.
- Inferior quality of raw material specially yeast.
- Incorrect time and temperature of fermentation.
- Incorrect methods of manipulation of dough i.e. knocking back, dividing, and moulding.
- Improper proofing conditions i.e. time, temperature and humidity.
- Improper backing conditions i.e. temperature, humidity and time.
- Inadequate cooling of bread before packing.
- Improper storage conditions.
- A general lack of understanding of principles of hygiene on the part of baker.
- A thorough knowledge of raw material and its functions, adequate understanding of bread making procedures, necessary control on timing, temperatures and humidity conditions of different stages of bread making and above all personal skill and experience of the baker goes a long way in avoiding faults in bread and also in finding out remedy, should any fault occur. A skilled baker should examine the

bread carefully, and by reasoning, deduction, elimination, and if necessary by experimentation, should be able to deduct the cause of fault and subsequently find the solution.

The overall quality of bread is dependent on the degree of perfection of its various characteristics like volume, crust, color, flavor, etc. (as discussed previously).

Bread Improvers:

If the quality of raw material is good and the baker knows his job well, it is hardly necessary to use any bread improvers. However ideal conditions for bread production do not always exist. Quality of flour varies from consignment to consignment, mineral content of water varies from place to place, and with the complete mechanization of bread production of process, it has become unavoidable to make use of certain chemicals in order to ensure consistently good quality of the product. Gluten forming proteins of flour is the basic factor for making a good bread. Strength and extensibility of gluten is the two main characteristics responsible for bread making quality of flour. Flours, always do not contain desirable quality of gluten forming proteins. Any added material which can improve the strength and extensibility of gluten of flour is known as bread improver. Inorganic salts which affect the nature of gluten are known as minerals improvers. Mineral yeast food (MYF) is a general term used to describe a combination of inorganic salts, some of which affect the nature of gluten while others act as food for yeast. Potassium bromate is one of the earliest known chemical used by baking industry to improve the quality of bread. It oxidises the gluten, giving it more strength, which has direct bearing on even spring and other related characteristics of bread.

Milk:

Milk has a tightening action on flour proteins which eventually improves the texture of bread. Inclusion of milk in the formula necessitates addition of extra 2to3% water in the dough thereby increasing the yield by that amount. Milk improves the flavor and taste of bread and lactose content of milk improves the crust color. In regular white bread 1to2% milk(solids)can be added for improving the quality of bread which will also subscribe to its nutritional content.

Malt:

There are two kinds of malt which can be used in bread making:

1. Plain malt acts as yeast food and
2. Diastatic malt apart from supplying food for yeast, it also assists in modification of starch.

Fat:

Use of fat improves the volume of bread as it has lubricating effect on the fine gluten strands. It is normally used at the rate of 1 to2% based on the weight of flour. Excessive amount of fat exerts weight on fine web like structure. With such doughs which call for higher amounts of fat, yeast content should also be increased to offset the dead weight of fat so that volume does not suffer. Fat helps in retaining moisture in bread and thus improves its shelf life. It also improves the sliceability and eating quality of bread.

Sugar:

Although flour contains natural sugar, the quantity of natural sugar is not sufficient to carry out the whole process of fermentation. Threfore sucrose sugar is added to the dough to supplement the natural sugar of flour. Basically, sugar is used to provide food for yeast but it also improves moisture retention capacity of bread. It has softening effect on crumb and improves the crust color and flavor of bread.

Eggs:

Egg contains proteins, fat and lecithin. Fat and lecithin help in keeping the bread moist and soft due to their modifying action on gluten. Protein of egg has strengthening action of flour proteins which improves volume and crumb structure of bread.

Soya flour:

Soya flour has a modifying action on the bread crumb, thereby improving its moisture retention power. It is very rich in proteins and contributes to the nutritional value of bread. As an improver, it can be used as the rate of 1to 2% based on flour.

Emulsifiers:

Glycerol Mono Stearate(GMS) is the most commonly used emulsifying agent in bread making. It has a softening effect on the bread crumb and holds the moisture for longer period and thus acts as an anti staling agents.

Confectionery

Unit-10-CAKE MAKING METHODS

Cake Making Methods:

Following methods are used for making cakes.

1. Sugar - batter method.
2. Flour - batter method.
3. Blending method.
4. Boiled method
5. Sugar - water method.
6. All - in process.

1. Sugar – Batter method:

In this method, all the fat and sugar is creamed together.

Shortenings used for cake making should be plastic in nature. Granular fats should be avoided which have very poor whipping quality.

Very often a combination of fats like hydrogenated shortening, butter, or margarine is used in order to acquire specific characteristics in cakes. It is very necessary that all the fats are at room temperature i.e. 70 to 75 deg. F. Very shortenings will not cream up well, while too soft shortenings will not be able to retain aeriation. If cold and hard fat is creamed with soft fats, the hard fat will break in to small pieces which will be scattered in the whole mix. These hard lumps will difficult to and will adversely affect the process of aeration. Shortenings used for cake making should not melt by the heat produced due to friction during creaming process. In practice, all the fats should be first blended together { either by machine or by hand} thoroughly. The sugar is added gradually continuing the creaming process. All the sugar should not be added to fat at a time as this will adversely affect aeriation process and it may take extra time to achieve the desired results. When adequate aeriation is achieved, the mixture is very light , fluffy and brighter in appearance.

When adequate aeration is achieved in the fat sugar mixture, eggs are added gradually. Eggs should be at room temperature (70to 75 deg. F) at the time of adding to the cream. For small batches mixed by hand, it is good practice to whip the eggs to a stiff consistency before adding to the creamed mixture, although while using the mixture, it is not necessary. Although cake shortening are emulsified type, emulsifiers in the form of gels can be used for better results. These can be added after about half of the total egg is added or even earlier if the batter shows any signs of curdling.

When eggs are added to the creamed mixture little at a time and mix just sufficiently, the air cells of whipped eggs either diffuse into the air cells

already present or increase the number of air cells in the cream and the liquid part of egg is evenly with eggs distributed in the mixture giving it a smooth, velvety appearance.

However, if the eggs are stale, or too much egg is added at a time or after each edition of egg, it is not mixed properly, the perfect blending does not take place and the fat is broken in to small fragments separated by liquid component of egg. If too cold eggs are used, the fat will solidify soon as it comes in contact with eggs and perfect amalgamation of fat and egg will not take place. In this case also, the fat will break down into small lumps which will be coated with egg. The break down of fat in to small fragments separated by egg is known as "Curdling" of batter.

Whenever and whatever reason the batter is curdled, there is loss of aeration which in low volume and poor texture of cakes. Whenever, signs of curdling are apparent the following remedial measures should be taken immediately.

When batter is curdled due to low temperature of eggs, the mixture should be slightly warmed over a pot of hot water, taking care that the bowl containing mixture does not touch hot water. Direct heating of mixture is not advisable as the fat will melt or egg may coagulate. In both the cases there will be loss of aeration.

If the batter is curdled due to poor quality or improper mixing of egg, and adequate quantity of flour should be added and mixed quickly. This flour will absorbed the excessive moisture and the mixture will again become smooth.

When all the egg is amalgamated, the mixture should have a smooth, light and velvety appearance.

A part (one half to two third) of liquids such as liquid sugars, water, milk, fruit juices, fruit pulp etc. Along with essances, color and salt can be added

at this stage. This is done in order to have sufficient moisture to prevent toughening of gluten while mixing flour.

Next stage is incorporate flour in the mixture. Flour should be sifted with other dry ingredients such as baking powder, corn flour, sodium propionate etc.

In order to ensure its thorough dispersal. Incorporation of flour in the cream is an important stage in cake making and even slight mishandling of the mixture will spoil the cake. Whether flour is mixed by hand or by machine, the operation should be carried out in a fashion that the flour is evenly mixed with minimum possible of mixing action in order to avoid toughening of gluten. Flour should not be added all at once, but it should be divided in to two or three portions and each portion should be added at a time with minimum possible movements of hand or machine. Each portion of flour should be added alternately with water at low speed. If any fruits are to be mixed, these should be added alternately with flour. When all the fruit is mixed, the remaining liquid is added. This liquid brings the batter to a definite level of fluidity which is necessary for even and gradual rise of cake during baking operation.

This liquid also serves an important function of easing the strains on gluten which are affected during mixing operation and which, otherwise, may cause toughening of cake. Precisely, for this reason, even during earlier stages when the flour is being mixed, if the mixture is appears to be tough, little water should be added to avoid toughening of gluten. The batter is now ready for panning and baking.

2. Flour –batter method:

In this method, fat and a quantity of flour not exceeding the weight of fat is creamed together. Fat should be in smooth and plastic state

and the flour should be added gradually. The whole mass is whipped till it becomes light and fluffy. Eggs and an equal quantity of sugar is whipped to a stiff froth. This is added to the creamed mixture of fat and flour. Although, there is less risk of curdling of the batter, still the egg mixture should be added in small portions at a time and after each addition it should be mixed thoroughly and then only the next portion should be added. At this stage, the remaining sugar is dissolved in milk or water and added to the mixture. Any color or flavor is also added along with this liquid. Lastly, remaining flour sifted with baking powder, is added and mixed. During last stage of mixing, if the formula is rich, the mixed operation should be carried out gently. In case of rich cakes, most of the aeration is achieved in the fat during creaming operation of fat and flour. A vigorous mixing will knock the cells and cake will have poor volume. On the other hand, lean cakes acquire most of the aeration due to baking powder and there is no risk of loosing aeration achieved in fat. A thorough treatment of batter ensures smoothness of the batter which is desirable for obtaining good texture in cakes. As all the liquid is already present in the batter, it is possible to give a vigorous mixing without the risk of toughening the gluten. In case of very lean cakes specially, where there is less quantity of fat and eggs and more of flour and sugar, some difficulty may be experienced in mixing large quantity of flour and sugar. In such cases, milk(or water), part of sugar and part of flour equal to that of milk is mixed in to a smooth paste and added. The remaining flour should be sifted with baking powder and added at the last stage of mixing.

3. Blending method:

This method is suitable for making high ratio cakes in which quantity of sugar is more than the quantity of flour. Usually emulsified type of shortening and special cake flours are used for making high ratio cakes. In this method, emulsified shortening, flour baking powder, and salt are whipped together to a very light and fluffy consistency. Sugar, milk, or any other liquid, color and flavor are mixed together and added to the previous mixture. Eggs are added next and the whole mass is mixed to a smooth batte

4. **Boiled method:**

This method is used for making good quality Maderia cakes and genoses sponges. Butter or margarine is placed in a bowl and heated till it melts and water in them actually starts to boil(hence boiling method) Remove the bowl from heat and add about two-third (or less) flour and mix thoroughly. Egg and sugar is whisked to a stiff sponge. This sponge is added to the fat-flour mixture in about four to five equal parts. After each addition of sponge, it should mixed be thoroughly. Remaining flour can be added at this stage. When the mixture is smooth, it is scaled into paper lined baking sheets to about one inch thickness for making genoses. For making Maderia cakes, mixture is baked in moulds lined with grease.

Sugar water method:

In this method all the sugar and approximately half the quantity (of sugar) of water is agitated in a bowl till all the sugar is dissolved. Then the remaining ingredients except egg are added and the mixture is well agitated to acquire aeration. Lastly , egg is added and the mixture is cleared.Due to more aeration and better emulsification obtained in this method, the cakes so produced have better texture and longer shelf life.

5. **All – in process:**

In this process all the ingredients are put into the mixing bowl together. Aeration of the mixture is achieved by controlling the speed of the mixture as well as the mixing time. Wire-whip is used for this operation which ensures a faster breakdown of ingredients and helps to achieve a good aeration. For making cakes by this method, it is necessary to use emulsified type of shortening and special cake flours (having soft gluten forming proteins, fine granulation and low PH). Non emulsified type of shortening will not be able to hold excessive moisture present in the formula. Similarly, special cake flours will tolerate the amount of mixing given to the batter without toughening the gluten. After adding all the ingredients in the mixing bowl, the mixing operation is carried out as follows:

1. Half a minute at slow speed. This is done at slow speed so that all the dry ingredients are moistuned without flying off from the bowl.
2. Two minute at fast speed. At this stage, all the ingredients break up and are incorporated evenly throughout the mass. The batter is also well aerated.
3. Two minutes at medium speed. Aeration achieved during the second stage is not evenly distributed in the batter. By mixing at medium speed the larger air cells break up into smaller cells and the aeration of the mixture becomes even.

4. One minute at slow speed. This is done in order to eliminate any possible large air pockets and still fine breaking down of air Panning of cake batter

When the batter is ready, it is weighed in the moulds. Moulds should be lined with grease-proof paper or should be greased and dusted with flour. Excessive greasing of moulds is undesirable because it will have a frying effect on the bottom part of the cake and the cake will have a greasy feel. After dusting the mould with flour, the mould should be turned up side down and tapped gently in order to remove excessive

flour which, otherwise, will adversely affect the appearance of the cake. The mixture should be put in the moulds in as large portions as possible. Putting the mixture in small portions at a time may cause entrapping of air pockets between one portion and the other. These air pockets will create holes in the cakes. Moulds should be filled only two-third of its height leaving sufficient space for cakes to rise during baking. After the batter is weighed in the moulds, it should be leveled properly in order to have an even expantion of cakes. A spatula may be used for leveling the batter. Slight spray of milk on the upper surface will prevent early crust formation and allow the cakes to expand evenly and due to caramelisation of milk sugar, the crust will a desirable golden brown color. It is very necessary to load the cakes in the oven as soon as the weighing operation is completed, otherwise part of gas from baking powder will escape which will have an adverse effect on the volume and texture of cakes.

Unit-11- Cake-Making Ingredients & Baking of cakes

Cake making ingredients are classified as:

1. Essential ingredients i.e. flour, sugar, shortening and eggs.
2. Optional ingredients i.e. baking powder, milk, fruits etc.

Above ingredients are also classified according to the function which they perform in cake making. This classification is as follows:

1. Structure builders - flour, eggs, milk,
2. Tenderizers - fat, sugar, baking powder,
3. Moisteners – milk, egg.

Baking of Cakes:-

Different kinds of cakes are baked at different temperature. The oven temperature is adjusted according to richness of formula, size of cakes and number of units required to be baked at a time. Regarding richness of formula, the basic principle should be remembered that is"**Richer the formula lower the temperature of baking."**Rich cakes contain more amount of fat and eggs, and they acquire all its aeration during creaming of fat and sugar or by way of whipped eggs. These cakes contain very little baking powder, if any at all. The batter does not contain much moisture and is comparatively less fluid. Such cakes should have a very slow and gradual rise in the oven in order to have thorough baking and this is precisely the reason for baking them at low temperature. If rich cakes are baked at high temperature, there will be faster crust formation on cakes. The crust will prevent heat from penetrating inside the cake resulting in an under-baked product. There will be much concentration of heat on the crust giving it too dark color. When, ultimately heat does reach inside the cake, the internal part will expand bursting the crust and spoiling the appearance of the cake. Lean formula contains less amount of fat and eggs. All the aeration in such cakes is achieved by baking powder. Lean cake batter is more fluid in comparison with rich cake batter. Such cakes are baked at high temperature so that evolution of gas from baking powder, acquiring of volume by cake and setting of structure of cakes place simultaneously. If such cakes are baked at low temperature, there will be evolution of gas from baking powder which will expand the cake, but due to low temperature the structure of cake will not set and the cakes will collapse. Cakes baked as large units should have a slow and gradual expansion in the oven which is possible when the baking temperature is low. Smaller units require less baker time. Faster setting of structure is made possible by baking at higher temperature.

When oven is not filled to the capacity, it is necessary that the temperature of the oven is reduced. Good results achieved by placing a pot of water in the oven. The water will absorb some of the excessive heat and at the same time the water vapours will delay the process of crust formation on cakes, thus allowing the cake to rise evenly and acquire proper volume. Lining the moulds with paper, covering the cakes in the oven with moist brown paper, placing the moulds on baking sheets while baking, are some of the means to cut down absorption of heat by cakes and these measures should be adopted while baking such cakes which require too long baking time or while baking a small batch of cakes in large oven.

Baking and cooling loss:

Normally there is about 12% baking and cooling loss in cakes. Excessive baking and cooling loss will result in dry-eating cakes. If there is lack of temperature in oven, the cakes will take longer time in baking and consequently there will be excessive evaporation of moisture resulting in dry-eating cake. But most important factor in determining baking and cooling loss in cakes is the amount of batter filled in a given size mould and the depth of the mould. A mould should be filled with sufficient amount of batter so that when due expansion has taken place during baking , the mould , more or less , contains(filled with) the cake. If a small amount of batter is baked in a large pan, there will be excessive baking and cooling loss which will result in not only a dry eating cake but also will mean economic loss to the baker.

Baking temperature:

Most cakes are baked between 375-400 deg. F(190-200 degC). If cakes are baked at too low temperature . The gas evolved from baking powder will escape before the structure has a chance to set, resulting in small volume, flat appearing cakes. On the other hand, if the cakes are baked at too high

temperature, the cake will peak and burst in the center, will be tough and may also not be baked adequately. As a rule, large cakes and rich cakes should be baked at low temperature while lean cakes and smaller cakes should be baked at higher temperature.

Types of Iceing:-

Many types of cake, cookie, cupcake and dessert are covered with icing. It can be used to decorate a variety of pastries and baked goods, and adds flavor and texture, as well as enabling a chef to decorate her creation so that it is a treat for the eyes as well as the palate. There are seven basic types of icing:

1. Buttercream
2. Flat
3. Foam
4. fondant
5. Fudge
6. Royal and
7. Glazes.

1. **Buttercream icing** is one of the most popular types for cakes. It is easy to spread, has a sweet flavor and a soft, smooth texture and is simple to make. Buttercream is made with a type of fat, often butter, and sugar. It can also contain eggs or milk to change the texture and thickness. Most icing found in the supermarket in the cake mix section is basic buttercream.

2. **Flat icing** is one of the most simple types. The basic ingredients are powdered sugar and water. Simple flat icings form the glaze on rolls, danishes and other pastries and can be flavored with fruit or spices to add a new taste to the pastry.

3. **Foam icing** comes in a variety of flavors and has a soft, fluffy appearance. A meringue is made of whipped egg whites with a flavored syrup added. Marshmallow foam is a common variety, but other flavors such as chocolate or vanilla can also be added to the meringue.

4. **Fondant** gives a cake or pastry an elegant appearance and is popular for wedding cakes and other show pieces. This type is simply sugar and water, with either glucose or cream of tartar used to produce the proper crystallization to give it a smooth, almost porcelain look.

5. **Fudge icing** is thick and rich with a strong chocolate flavor. Other flavors, such as almond, peanut butter or mint, are often added. Using both butter and shortening, corn syrup, sugar and a variety of other ingredients, this type can be somewhat time consuming to prepare, but the finished product is stable and can be refrigerated and used at a later time.

6. **Royal icing** is similar to the flat variety, but adds egg whites to produce a thicker product which hardens to a brittle texture. It can be used to make beautiful, artistic decorations because it hardens when dried, but the same property makes it less enjoyable to eat. Royal icing is used primarily for decorative additions to cakes and for show work such as sugar sculptures.

7. **Glazes** are thin, watery icings which form a hard, crisp shell when poured or brushed over cakes and pastries. They are usually made with a fruit flavor, although other flavors, such as chocolate or coffee, are sometimes popular as well. Like flat, glazes can be used on sweet

breakfast pastries like coffee cakes. They add flavor, and also help keep the pastry moist and improve its shelf life.

With seven basic types to choose from, and myriad possibilities within each type, pastry chefs have a great variety of options when topping their creations. By using one of these varieties, an experienced chef can produce countless delicious creations.

UNIT 12 - BASIC CAKE FAULTS AND REMEDIES

Cake faults and remedies:

Reasons for faults in cakes may generally be grouped as follows:

1. Wrong quality of raw material
2. Improper balancing of formula
3. Operational mistakes
    1. Wrong quality of raw material

       Flour

       If strong flour is used in cake making, gluten development will take place during mixing operation resulting in cakes of small volume, peaked top, unsightly crack in the center and an uneven texture. Such cakes will be dry eating and will stale rapidly . With slightly strong flours it is advisable to use flour-batter system of cake

making. Liquid content may be slightly increased and mixing operation should be carried out to minimum possible extent in order to avoid undesirable development of gluten. Use of 5-10%(based on flour) corn flour will dilute in gluten and to some extent may remedy the defect. Too weak flour will not be able to carry sugar and fat and the cakes will be poor in volume. Weak flours will be unable to carry the normal amount of liquid. This will cause the crumb at the base of the cake to remain compact showing as wet streak. In the case of cakes with fruits, structure will not be strong enough to hold the weight of fruits which will sink to the bottom. While cutting such cakes it may be crumble rather than cutting in to neat slices.

Sugar:

Very large crystals of sugar will not dissolve during mixing operation and the resultant cake will have all the defects as if lack of sugar has been used in the formula i.e. harsh crumb, poor eating quality and rapid staling. For sugar to be effective, there must be sufficient water in the formula to dissolve the sugar. If there is lack of water in formula, then also the cakes will have the above defects. When sugar is not completely dissolved, it appears as white specks on the top crust which spoil the appearance of cakes. Too large or too small crystals of sugar are not desirable as they do not cream up well(resulting in poor aeration) and thus adversely affect the volume and texture of cakes.

Shortening:

For use in cake making shortening must be smooth and plastic. Such shortening cream up well and hold the air cells which are incorporated during creaming operation. Granular shortenings will not cream up well and are not capable of holding the air cells. Resulting cakes will be poor in volume and have a coarse texture. If the shortening melts during mixing operations, aeration will be lost,

affecting the volume and texture adversely. Special emulsified type of shortenings for cake making give best results in batter type cakes.

Egg:

Weak and watery eggs should never be used in cake making as such cakes have very poor whipping quality, and cause curdling of batter. If the batter is curdled , the aeration will be lost and the cakes will have poor volume and texture. In most bakeries eggs are used by count which is a wrong practice. Eggs must always be weighed (without shell) for use in any formula.

Backing powder:

Baking powder should not be stored in warm and humid place where it looses its aerating power and will be incapable of aerating the cakes. It should be stored in cool, dry place in air tight containers.

Fruits:

Fruits must be washed before adding in the cake batter. Unwashed fruits or fruits with syrup sticking to them will discolor the cake batter and may also imbalance the formula by increasing its sugar content. Fruits must be properly prepared so that these are of even size. Too large pieces of orange peel or citron peel or glaced cherry will sink in the cake.

2. **Improperly balanced formula:**

Sugar act as a tenderzing agent and has to be balanced to be structure forming ingredients such as flour and egg. When excess sugar is used, it opens up the structure too much which is not supported by flour and egg as a result the cakes collapse (M- fault), have white sugar spots and dark and thick crust. As sugar delays the setting of structure, in the presence excess sugar, fruits will sink in the cake. Excessive sugar may also cause excessive volume with very open texture. Such cakes may be too tender to cut. Too little sugar will produce a very

close grain and texture. Cakes may pull away from paper lining. Too little sugar will cause setting of top crust earlier than the inner portion. When inner portion expands, it will cause an ugly crack in the top crust and the cake will have pale brown crust color.

Fats act as a tenderizing agent. It has lubricating action on flour proteins. Quantity of fat should be balanced against quantity of egg which should be either equal to or higher by 10% than fat. If fat is higher, egg will not be able to support structure and cake will have a flat top, dark and thick crust, gummy and greasy eating quality and will be too tender to cut(crumbly). In the case of cupcakes the paper cases will separate out from cakes. Excessive fats can not be retained by protein and starch network will squeeze out when cakes are handled.

Cakes having lack of fat will have coarse grain, holes and tunnels, be dry eating and and will stale rapidly. Crust of such cakes will be sticky due to insufficient bake off of moisture in the oven as less fat will result in poor volume of cakes and poor heat penetration.

Eggs subscribe to the surface, moisture and aeration of cakes. If the egg content of the formula is less than fat, the cake will not be able to carry extra fat and will collapse having flat top. This condition will also make the fruit cakes crumbly. Lack of eggs will result in less air incorporation and reduced volume of cakes. Grain will be close and compact. Due to lack of volume, heat penetration will be poor. There will be insufficient bake off of moisture and the crust will be light colored, thin and sticky.

Excessive eggs will impart abnormal volume to the cake. The crust will be dark, thick and will peel off as a flake. Grain will be open and coarse. Texture will be rough and dry. Excessive volume will cause

more moisture evaporation from the cakes, rendering the cakes dry eating.

Baking powder:

Lack of baking powder will produce cakes having less volume and flat on top. Due to lack of volume, there will be poor heat penetration which will result in light colored, tough thin, and sticky crust. As there is no enough heat penetration, grain will be like solid unbaked mass.

Excessive baking powder will produce excessive gas during baking. Volume will increase initially but as the crumb over extended. It will not be able to hold gas and will collapse. Due to higher PH and good heat penetration, there will be more caramelization of sugar giving a dark colored, very tender and dry crust. Grain will be very open and coarse. Texture will be very crumbly due to excessive evaporation of moisture and weakening of structure. Excessive baking powder will cause the fruits to sink in the fruit cake.

PH:

PH of cake batter should be about 6.5. higher PH weakens the proteins resulting in collapse of cakes. There will be excessive caramelization of sugar as well as browning reaction in the presence of higher PH resulting in dark and flaky crust. Grain will be open and coarse due to weakened protein. Cake will have soapy taste and aroma due to saponification. Higher PH will also encourage bacterial spoilage of cakes. Low PH will give lack of volume to cakes. Due to lack of heat penetration and low PH, crust will be light colored sticky to touch. Texture will be almost smooth. Cake will have blend aroma.

Batter temperature:

A cake batter should have a temperature of approximately 72deg F. in order to have best results. At low temperature, shortening will be rendered too hard for creaming, resulting in lack of aeration, in the batter and the consequent lack of rise in the oven. Crust will be thin, light colored and moist. Grain will be coarse and tough due to insufficient aeration. Higher temperature of batter will cause much loss of gas from baking powder during bench operation resulting in small volume and flat appearing cakes. In this case also the crust will be thin, light colored and moist. At higher temperature, fat will not be able to hold aeration resulting in a close and compact grain.

UNIT 13- PASTRY MAKING

Pastry:

A paste of flour, fat salt and water is known as pastry. Optional ingredients may be added such as sugar, flavor, milk, solids, egg yolk and so on. Method of mixing differs for different kind of pastries. Pastry is actually only a base for making a different kind of products such as puff, vaul au vent, Palmiers, French hearts, Pie crust, tarts, turn-overs, cream rolls etc.

Based on the method of mixing pastries are classified as follows:

1. Short crust pastry
2. Puff pastry
3. Flaky pastry
4. Choux pastry

1. Short crust pastry

In this type of pastry, fat content is generally 40-80%. If the fat content is low, small quantity of leavening agent (Baking powder) should be used to impart tender eating quality. Flour is sieved(with baking powder, milk

solids). Chilled fat is cut in to small pieces and mixed with the flour. Then flour and fat is are rubbed gently with the tips of fingers till the whole mass resembles bread crumbs. If sugar is desired to be added, it should be added and mixed now. Sugar content in the pastry varies from about 10% (For pie, tarts, turn overs etc.) to 50% (for short dough based cookies). Salt is dissolved in part of chilled water and added. Remaining water with the flavor is added gradually and mixed with a pallet knife by ”Cutting and Mixing” method. If egg yolks are desired to be added, water should be reduced proportionately and yolks should be thoroughly blended before mixing to ensure even mixing.

Mixing operation of short crust pastry is very important. It should be carried out in a manner that gluten is not unduly developed, otherwise pastry will become hard and not remain as it should be. Small dough could be mixed with a pallet knife by, what is known as “Cutting and folding” movements of pallet knife. It should be mixed just sufficiently so that the water is evenly distributed and taken up by the flour and the whole mass joins together. Any undue mixing operation will toughen the pastry Moisture (Water, Egg yolk, Fresh liquid milk etc.) Content should also be accurately regulated so that the dough mass does not remain crumbly nor does it becomes sticky. Larger doughs can be mixed in a vertical mixer at slow and medium speed. After mixing, the dough should be rested in a cool place (refrigerator) for half an hour to one hour before sheeting for makeup. While sheeting short crust pastry, it should be remembered that the pastry is subjected to as little frictional heat(Generated by rolling pin) as possible. Otherwise fat will melt and get separated from dough mass making the pastry tough eating. During the entire operation of short crust pastry the aim should be to keep the fat evenly distributed in the dough mass till the product goes to oven for baking. Baking of short crust pastry is done at medium temperature (190-195 Deg. C) and the baking time will depend on the type of product being

baked. If the pastry is to be baked without any filling it is advisable to prick the pastry with a fork in order to avoid any bubble formation which may spoil its appearance.

After sheeting and cutting, the scrap should be neatly placed one over the other and pressed for second sheeting. In this manner gluten development will be minimal and resultant product will remain tender eating.

2. Puff pastry

Fat used for making puff pastry should have high melting point in order to withstand the frictional heat to which it is subjected during sheeting and folding operations. Dough for making puff pastry should be mixed with chilled water in order to prevent fat from melting. Some food acid like lemon juice is used in the dough in order to impart extensibility to the dough. Fat should be added last in the dough because if fat is added before flour has a chance to take up and absorb water, water absorption will be reduced and gluten may not develop sufficient strength to undergo so many sheeting and folding operations.

Dough for puff pastry is made with flour, salt, lemon juice, chilled water and shortening. Consistency of the dough should be such that it could be sheeted easily without being too hard or sticky. Too tight or too loose will be difficult to process.

After mixing, the dough should be relaxed in cool place covered with moist cloth which will prevent it from crusting. Puff margarine is made into a square block and chilled in the refrigerator.

After half an hour of relaxation period, dough is sheeted into a square shape somewhat larger than the margarine block. Then the chilled margarine block is placed in the center of the dough so that the sides of the margarine block

face the corners of the sheeted dough. Now one end of the dough is folded over the margarine block so as to cover it completely. Than the opposite end is brought over and folded over it. Similarly the remaining two ends are folded so that the margarine block is covered by four folds of the dough on the top side. This block should be relaxed in cool place for about 20 min. This relaxation period will ease the stress on the dough to which it is subjected during sheeting and folding operation. After proper relaxation of the dough, it is turned upside down (so that the top side having four folds is down in contact with the table top) and sheeted into a rectangular shape and folded into a book fold that is both the ends are brought in the center and again folded over so that the entire sheet forms four layers. In the similar manner four more folds are given interspersed with adequate relaxation period in between folding. Now we have a dough and fat mass in which very fine layers of dough are interspersed with very thin layers of fat. This mass is known as "Puff pastry" from which various products are made such as vegetable/jam puffs, Cream rolls, Palmiers, Vaul au vents, etc. After final sheeting and folding, the pastry should be relaxed in cool place for a minimum of one hour before sheeting for makeup. If at any stage pastry becomes too hard (if stored in the refrigerator), it should be allowed to thaw at room temperature until it acquires sheetable consistency.

Following precautions should be observed while sheeting puff pastry.

1. Margarine should not become too hard when the dough is relaxed in the refrigerator. Very hard margarine will break into small pieces while sheeting and the desired layering effect will not be achieved.
2. Margarine should not be too soft otherwise during sheeting it will be squeezed out at one end. This will also prevent formation of desired layers.
3. Relaxation of dough in between two sheeting operations is very important. During sheeting operation, gluten of the dough is subjected

to stress and strain and is extensibility is regained and further processing becomes easier.

4. The entire operation of making puff pastry should be carried out at cool temperature. Frictional heat from sheeting action or the atmospheric temperature(warm table top) should not make the margarine too soft which, as explained earlier, will be squeezed out and proper layer formation will not take place.
5. While relaxing the pastry, it should be covered with moist cloth in order to prevent it from crusting. If pastry is crusted during processing, it will too soft its stretchability and its rise in the oven will be poor.

3. Flaky pastry

Flaky pastry can be used for making pie crust, vegetable puffs, Bombay khara (As popularly known), cream rolls etc.

Proportion of fat could be 50- 70% for layering and 5-10% fat could be mixed in the dough. Higher amounts of fat either mixed in dough or layered will make the pastry too fragile to handle.

Dough is made with flour and salt food acid, chilled water and fat. Dough is relaxed for about half an hour. Then the dough is sheeted into a rectangular shaped and marked into three equal parts lengthwise.

Fat is divided into three portions. One portion of fat is evenly spread onto two third portion of sheeted dough leaving out half an inch space on the edges. Now one third part of the dough (on which fat is not being spread) is folded over the middle one -third par (on which fat is being spread). The remaining one third portion (with fat) is folded over it. We have now alternate layers of dough and fat. Relax the dough for 20-25 min. in cool place covered with moist cloth in order to prevent it from crusting.

The dough is again sheeted into rectangular shape and the process is repeated twice more to use up the remaining two portions of fat with adequate relaxation time in between sheetings.

Similar two folding are given without fat. Now we have very thin layers of dough interspersed with very thin layers of fat which will rise during baking to form a light and crisp product. After final sheeting and folding.The pastry should be relaxed for about an hour before sheeting for makeup.

After makeup and before placing it in the oven the pastry should be relaxed on baking sheets for 20-30 min. This will stabilize the position of layers and rise of the product in the oven will be even. During this relaxation the product should be protected from crusting. Some products like Bombay khara are drenched with water which is drained out just before baking. Other products like puffs or plamiers can be washed with milk or egg and covered with moist cloth.

4. Choux pastry

Choux pastry has altogether different kind of characteristics. This is an almost hollow shell which is crisp eating. Shells can be filled with fresh cream or butter cream or custard cream and then coated with fondant icing. Pastry can be made in the shape of eclairs, swans, cream puffs etc.

Water and fat is boiled together. The pan is taken off heat and all the flour is added at a time and mixed thoroughly to avoid lump formation. The entire mass is again cooked for some time on slow heat till the mixture starts leaving the bottom of the pan. Now the pan is taken off fire and whisked eggs are added gradually beating the mixture thoroughly so as to form a homogenous smooth paste of piping consistency. Adequate whisking of this paste will ensure desirable rise of the pastry during baking.

Baking operation of choux pastry is very important. Initially it should be baked at high temperature(230deg.C) so that it achieves maximum rise.

Then the temperature is reduced to about 150deg.C and it is baked until structure is stabilized and shells become crisp.

Pastry should not be subjected to unnecessary movements or sudden temperature variations until its structure is stabilized otherwise it will collapse. Shells can be stored for short periods and used as required.

Unit 14-Storage of Confectionery Products

Chocolate: Traditional chocolate bars are best stored at temperatures between 10 and 18 degrees in a dry place, because chocolate doesn't like to be stored too cold or too warm. Above all it doesn't take kindly to temperature fluctuations. Moisture, and too much light or air flow are also not good for chocolate.

What happens when chocolate is stored at high temperatures or the storage temperature fluctuates too much is that fat blooming occurs. A very thin, white layer of fat crystals forms on the chocolate surface. It's sometimes confused with mould, but unlike mould it presents no health risk. The fat bloom doesn't affect the taste of your chocolate; it simply looks unappetising.

If chocolate is stored in a damp place or is moved from very cold storage to very warm surroundings, sugar bloom occurs, a form of condensation that produces a rough, irregular surface on the chocolate.

If the chocolate comes into contact with light or air, the fats in the chocolate decompose and the taste is lost. This is called oxidation. This may be accompanied by an unpleasant smell. Dark chocolate because of its greater cocoa content contains more antioxidants, ie, the darker the chocolate, the longer its shelf life. Dark chocolate will keep for at least two years, milk chocolate about a year and a half and white chocolate about a year. If you store the chocolate correctly it will still be edible, but there's no guarantee that after all that time it will be particularly tasty.

Confectionery: The shelf life of filled chocolates naturally depends primarily on the contents. La Madeline au Truffe, the world's most expensive filled chocolates, will keep only a few days. Small wonder, seeing they contain real truffles. The manufacturer recommends that his masterpieces are consumed within at most a week. Chocolates with a fruit filling should also not be stored much longer, those with a cream filling can be kept for up to two weeks. By contrast, chocolates containing alcohol will keep a whole lot longer.

Conclusion: Chocolate products are best stored in a cool, dry, dark and airtight place. Temperature fluctuations should be avoided at all costs, starting at the transport stage.

Unit-15-Food Safety & Standards

Delivering a product, or particularly one related to bakery at any outlet has to be created in the highest standards of hygiene and safety in order to clear the quality checks. A Brand Standard Audit, both internal and external is conducted regularly to ensure the standards of food safety are maintained at the hotel.

To begin with, Hotels use the First in First out (FIFO) method of inventory management. This assures proper rotation of Bakery products. Every food item which is received and sent for storage is clearly marked with the date of receiving and the use by/sell by date is also highlighted, depending upon the individual expiry dates.

Storage is another aspect that has to be taken care of in food safety. Poultry and raw egg products must be stored on the bottom shelf. In fact, food with a higher cooking temperature must be placed below food with a lower cooking temperature. Cross contamination is also a strong possibility if such conditions are not adhered to.

we believe that food safety is more than a mere practice, and is about accuracy and precision. Our freezers, for instance have to be temperature controlled at fifteen degrees Celsius below zero and our refrigerators are maintained at five degrees Celsius. Even the water we use to wash our containers and utensils have to be at a set temperature to get the right quality of cleanliness and hygiene.

Temperature is usually the most common culprit that causes food hazards. Marinated fish, vegetables and dried meat, can however be displayed (say in buffets) at room temperature for a maximum of four hours. So much so that all culinary staff are required to carry upon them a food thermometer as part of their uniform and should know how to operate it.

HACCP (Hazard Analysis & Critical Control Point) which is a systematic approach to food safety is applied at all stages of food production. It prevents, or rather reduces the risk of contamination.

Hygiene is a factor which cannot be ignored for obvious reasons; not only in terms of Bakery, but also for personnel. A simple practice of hand washing is taken very seriously indeed. No bare hand contact is permitted by associates for ready to eat foods. Moving on to kitchen equipment, our cutting boards for example are color coded depending on their utility and the employees are expected to know the difference. Materials also matter, since a wooden board is used for display, butcher blocks and bakery and white plastic is used for ready to eat food like Sushi.

Pest elimination is a crucial issue in food safety and we hold monthly pest elimination exercises by a licensed company.

every brand has to adhere to the set standards for food safety and hygiene in order to maintain consistency of the products, and this in turn ensures guest satisfaction, and most importantly, faith in the brand standards.

Unit-16 -Bakery Terminology

1. **Baba** - A type of yeast cake that is soaked in syrup.
2. **Batter** - A semi-liquid mixture containing four or other starch, used for the production of cakes and breads, and for coating products to be deep-fried.
3. **Bloom** - A whitish coating on chocolate, caused by separated cocoa butter.
4. **Bombe** - A type of frozen dessert made in a dome shaped mold.
5. **Bran** - The hard outer covering of kernels of wheat and other grain.
6. **Bran Flour**- Flour to which bran flakes have been added.
7. **Bread Flour**- Strong flour, such as patent flour, used for breads
8. **Brown Sugar**- Regular granulated sucrose containing various impurities that give it a distinctive flavor.
9. **Buttercream**- An icing made of butter and/or shortening blended with confectioners' sugar or sugar syrup a and sometimes other ingredients.
10. **Cabinet Pudding**- A baked custard containing sponge cake and fruits

11. **Caramelization**-The browning of sugar caused by heat.
12. **Coagulation**- The process by which proteins become firm, usually when heated
13. **Cocoa Butter**-A white or yellowish fat found in natural chocolate.
14. **Compote**-Fruit cooked in sugar syrup
15. **Custard**- A liquid that is thickened or set by the coagulation of egg protein.
16. **Docking**- Piercing or perforating pastry dough before baking in order to allow steam to escape and to avoid blistering.
17. **Emulsion**- A mixture of two or more unmixable substances.
18. **Gâteau** - French word for 'cake'.
19. **Hard Wheat**- Wheat high in protein.
20. **Sucrose** - The chemical name for regular granulated sugar and confectioner's sugar.
21. **Swiss Roll**- A thin sponge cake layer spread with a filling and rolled up
22. **Tunneling** - A condition of muffin products characterized by large, elongated holes; caused by over-mixing.
23. **Homogenized Milk**- Milk that has been processed so that the cream does not separate out.
24. **Soft Wheat**- Wheat low in protein.

RECIPES

'White bread'

Temp -200˚c

Temp -15-20min

Ingredients	Qty	Rate/unit	Amount
Flour	250g		
Yeast	10g		
Sugar	10g		
Butter	10g		
Salt	1/2ts		
Gluten	1/2ts		
Milk pw	1 tbs		

White Bread

Method:-

1. Sieve flour, gluten and milk powder together.
2. Prepare flying ferment using lukewarm water, sugar and yeast.
3. Knead dough till it gets smooth using flying fermentation.
4. Add butter and salt in it, and knead.
5. Leave it for proving for 10-15 min.
6. Knock back.
7. Place it in an oiled/greased baking tin.
8. Leave it for proving.
9. Apply egg wash and bake at 200˚c for 15-20 min.

Fancy Bread Rolls

Ingredients	Qty	Rate/unit	Amount
Flour	200gms		
Sugar	10gms		
Yeast	07gms		
Butter	05gms		
Salt	1/2tsp		
Gluten	02gms		
Poppy seeds	for topping		
Sesame seeds	for topping		

Method

1. Sieve flour and gluten and keep outside .
2. Add Luke warm water in grain sugar and yeast and little bit of flour to make a flying fermentation for 10-15 min.
3. Add flaying fermentation to flour and knead well into soft and pliable dough.
4. Add butter and salt and knead and leave is for proving.
5. Knock back with knuckles.
6. Cut in 8 portions
7. Roll in different shape.
8. Leave it on tray for proving.
9. Apply egg wash and sprinkle popping or defame seeds.

10. Bake at 200°c for 15-20 min

Brioche

Baking temp.-210°c Baking time – 20-25min

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Ingredients	Qty	Rate/unit	Amount
Flour	225g		
Sugar	30g		
Egg	1 no.		
Yeast	12g		
Butter	50g		
Salt	2g		
Milk	30ml		

Method:

1. Make a flying ferment using milk, sugar, yeast, egg and little flour.
2. Add it to the flour and knead to make a soft dough adding sufficient amount of water.
3. Cream salt, butter together and kneed into a dough.
4. Keep it for fermentation for at least 20-25 min.
5. Knock back and divide into 6 equal portions.
6. Further divide them ¼ and ¾ parts.
7. Grease a mould.
8. Make roundel bigger portion and place it on a mould.
9. Make a dispersion in the centre and stick small roundels into it.

10. Keep it for pouring for 20 min.

11.Apply egg wash and bake at 210°c at 20-25 min.

GENOISE SPONGE

Banking Time : 170degree

Banking Time :

15 – 20 min

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Eggs	3		
2	Flour	80g		
3	Sugar	80g		
4	Butter	30ml		
5	Vanilla essence	few drop		

Method:-

1. Line a genoise mould (Covering the cake tin with paper)
2. Whisk eggs and sugar in a pan over hot water.
3. Continue whisking until mixture is light a fluffy
4. Pour melted butter in the mixture.
5. Fold in shifted (sieve flour).
6. Pour the mixture in the geniose mould bake at 180degree Celsius for 15 to 20 min.

Note: For chocolate sponge replace 10g of lour with 10g of coca powder sieve it along with flour.

Fatless sponge cake

Temp- 180˚c Time - 20 to 25 min Yield ½ pound.

Ingredients	Quantity	Rate/unit	Amount
Flour	115g		
Sugar	115g		
Egg	4 no		
Vanilla essence	2 drops		
Baking	A pinch		
Hot water	1 to 2 tsp		

Method:-

1. Sieve flour and baking powder and keep aside .
2. Beat eggs and sugar together to achieve thick consistency.
3. Add few drops of essence and mix.
4. Sprinkle half the flour and fold into batter.
5. Add remaining flour in batter and mix it by cut and fold method with the help of rubber spatula.
6. Add little hot water to batter and transfer it into a cake time, lined with butter paper.

7. Once baked, demould on a cooling rack and cool thoroughly before decoration.

Variation: 'Swiss roll'

1. Transfer the cake batter a prepared Swiss roll tray and bake at 200˚c for 12-15 min.
2. Once baked transfer it ever a piece of butter paper.
3. Sprinkle with little caster sugar.
4. Spread some creamed jam all over and roll while the sponge is still hot.

Variation: 'Yule log'

1. Swiss roll is decorate in the mould 108 shape.
2. Yule log is a decorated Swiss roll and it can be decorated like a tree bank with Different types of icings.

'Variation: 'Genoise Sponge Cake'

Extra; method butter – 50g

1 Sieve flour and Baking powder together and keep aside.

2 Beat eggs and sugar till thick custard consistency.

3 Add essence and mix.

4 Sprinkle half the flour and half butter and fold in butter.

5 Add remaining flour and bake at 180˚c for 20-25 min

Fruit cake

Baking temp.- 160°c Baking time – 30-40min.

Ingredients	Qty	Rate/unit	Amount
Flour	115g		
Pw sugar	115g		
Baking pw.	¼ tsp		
Vanilla essence	½ tsp		
Egg	2 no.		
Fat	100g		
Cashew nuts	10g		
Raisins	10g		
Candid peel	10g		
Tutti fruity	10g		
Almonds	10g		
Sultanas	10g		
Glaze cherry	10g		

Methods:

1.Sieve flour and baking powder.

2.Fold the chopped fruits and nuts into it.

3.Cream fat and sugar.

4.Beat eggs and vanilla essence, and eggs to the creamed mixture little by little.

5.Add fruits and flour mixture into the creamed batter and mix with finger tips , add water to get dropping consistency.

6.Pour this mixture into greased and dusted cake tin.

7.Bake at 160° c for 30-40 min.

Rich fruit cake

Baking time – 30-40 min _____Baking temp.- 160°c

Ingredients	Qty	Rate/unit	Amount
Pw. Sugar	1/15g		
Baking pw.	1/4tsp		
Vanilla essence.	1/4tsp		
Egg	2tsp		
Fat	100g		
Rum fruits	For soaking		
Caramel colour	1 tbsp		
All spice pw.	1 tsp		
Flour	115g		

Methods

1.Sieve flour and baking powder.

2. Cream fat and sugar.

3. Add ceramal colour and all spice powder in it.

4. Beat eggs with vanilla essence and pour little by little in ceramal mixture.

5. Add chopped fruits and nuts to flour.

6. Add flour and fruits into the cream batter and mix with finger tips and water to get dropping consistency.

7.Bake at 160°c for 30-40 min.

DUNDEE CAKE

Ingredients	Qty	Rate/time	Amount
Flour	115g		
Brown sugar	85g		
Lemon zest	2 pinch		
All spice pw.	1 tsp.		
Eggs	2 no.		
Sultanas	20g		
Black currants	20g		
Glazed cherry	20g		
Chopped candid peel	20g		
Split branched almonds	10-15		
Baking pw.	1/2tsp		
Fat	90g		

Method

1. Sieve flour and baking powder.

2. Cream fat & sugar, lemon zest.

3. Beat eggs & creamed mixture.

4. Add chapped candid peel, glazed cherry, black currant, sultanas and all spice powder in the flour.

5.Mix creamed mixture and flour with finger tips.

6.Pour the batter in prepared cake tin.

7.Decorate it with blanched almonds cut into half.

8.Bake at 170°c for 45-60 min.

Madeira cake

Baking time – 30-40 min. Baking temp. - 170°c.

Ingredients	Qty	Rate/time	Amount
Refined flour	140g		
Fat	115g		
Sugar	115g		
Egg	3 no.		
Baking pw.	½ tsp		
Vanilla essence	¼ tsp		
Lemon yellow colour.	Few drops		
Candid peel	4 slices.		

Method

1.Sieve flour with baking powder and keep aside.

2.Cream fat and sugar and colour.

3.Beat eggs with vanilla essence .

4.Add candid peel to flour.

5.Mix flour in creamed mixture with finger tips.

6.Pour the butter in prepared cake tin.

7.Bake at 170°c for 30-40 min.

Nan Khatai

Tenp150°c Time-20min

Ingredients	Qty	Rate/time	Amount
Refined flour	140g		
Fat	25g		
Sugar	115g		
Sodium bicarbonate	4ts		
Curd	1kg		
Cardamom powder	20 g		
Cashewnuts	Few drops		

Method

1. Cream the fat and sugar together end till light and fluffy
2. Add curd, cardamom powder, sodium bicarbonate and cream well.
3. Fat in the flow and mix well.
4. Divide in equal into 20 portions and shape them round.
5. Arrange on a prepared baking sheet and place half the cashew nuts over each roundel.
6. Cover with wet cloth and rest for 30 min.
7. Bake at a temperature of 150 degree Celsius for 20 mins.

GOLDEN GOODIES

Ingredients	Qty	Rate/unit	Amount
Flour	115		
Fat	90		
Egg	1/2no.		
Baking pw.	1/4tsp		
v.ess.	Few drops		
Sugar	60g		
Designated coconut.	For coating		
Glaze cherry	3-4 no.		

Method

1.Sieve flour with baking powder.

2.Mix fat & sugar.

3.Add egg with vanilla essence & cream well.

4.Fold in flour with finger tips & form a soft dough.

5.Divide in small portions & make oblongs.

6.Coat with designated coconut & place on piece of glazed cherry in the centre & bake at 160°c for 15 min.

MELTING MOMENTS

Baking time:-15-20 min Baking temp:-160˚c

Ingredients	Quantity		
R. Flour Butter/ margarine Sugar Egg Corn flakes Baking pw Vanilla egg	150g 115g 85g 1 no 50g ¼ tsp Few drops		

Method

1. Sieve flour with baking powder.
2. Cream fat and sugar till light and fluffy.
3. Beat egg with vanilla essence and add to the creamed sugar and fat and mix well.
4. Add flour and mix lightly .
5. Divided in 15 equal portions and toss them into crushed corn flakes and place on a baking sheet.
6. Bake at 160˚c for 15-20 min.

Swiss tarts

Baking Temp-160˚c Baking Time -15-20 min

Ingredients	Quantity		
Flour Castor sugar Fat Lemon juice Zest Jam Leman essence	115 g 50g 115 g 1 tsp A Pinch 25 g Few drops		

Method

1. cream fat and sugar together
2. Add essence, lemon juice and zest together.
3. Add flour & mix with finger lips
4. Pour in piping bag, pipe with margin and pipe out to paper cups placed in muffin tray in a spiral leaving whole in center.
5. Bake at 160˚for 20 min.
6. Cool it and pipe firm in center and dust icing sugar on it

JAM TART

Banking Time : 160degree – 170

Banking Time : 15 – 20min

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Margarine	50g		
2	Four	120g		
3	Sugar	20g		
4.	Baking powder	½ Tbsp		
5	Jam (for filling)	¼ Bottle		
6	Water	20 ml		

Method:-

1. Rub fat or margarine into the flour until sandy texture.
2. Make a well in the center of the flour, add the liquid.
3. Mix the ingredient to the light hard short dough.
4. Roll the pastry 1/8” inch and line the tart.
5. Mold with pastry.
6. Trim off the extra pastry and prick the base using fork.
7. Then blind bake the tarts.
8. The baking temperature will be 160 degree Celsius for 15 to 20 minutes.
9. After baking fill tarts with jam.

Tri Colour Biscuit

Baking time – 15 min. Baking temp.- 160°c

Ingredients	Quantity	Rate/unit	Amount
Flour	170g		
Pw. Sugar	85g		
Fat	85g		
Baking pw.	¼ tsp		
V.ess	Few drops		
Milk	30ml (approx)		
Pine apple jam	As req.		
Mango jam	As req.		
Mix jam	As req.		
Icing sugar	For dusting		

Method

1.Sieve the flour with baking powder.

2.Cream fat and sugar.

3.Add flavoring agent and fold in the flour.

4.Add sufficient milk and mix lightly to form a soft dough.

5.Roll the dough into a ¼ thickness.

6.Cut round biscuits with biscuit cutter into even no. of portion.

7.Make 3 holes in half of the biscuit and arrange it on baking tray.

8.Bake at 160°c for 15 min.

9.Make it cool and sandwich pineapple jam between two biscuits.

10.Fill in the hole with a different colour jams and dust icing sugar on top of it before serving.

CHOCOLATE CHIP COOKIES

Ingredients	Quantity	Rate/unit	Amount
Flour	110g		
Icing sugar	50g		
Fat	60g		
Egg	1no.		
Vanilla essence	Few drops		
Baking powder	A pinch		
Chocolate chip	20gms		

Method

1.Sieve flour and keep aside with baking powder.

2.Cream fat and sugar till light and fluffy

3.Beat egg with vanilla essence

4.Mix gradually egg in the creamed fat.

5.Mix flour in the mixture

6.Make them in the cookie shape

7.Decorate it with chocolate chip.

8.Bake at 150˚ for 15-20 min

CHOCOLATE CREAM FINGERS

Baking temp-- 160°c Baking time-- 20 min.

Ingredients	Qty	Rate/unit	Amount
Flour	140g		
Cocoa pw.	20g		
Pw sugar	85g		
Fat	50g		
Butter	350g		
Egg	15g		
Chocolate essence	Few		
Icing sugar	85g		
Fat	40g		
Butter	5 g		
Chocolate	Few drops		
Chocolate colour	Few drops		
Cocoa pw.	1 tsp		

Method

1. Sieve flour and cocoa powder together.

2. Cream fat & sugar together till light & fluffy.

3. Beat egg with chocolate essence & add to the creamed mixture and cream well.

4. Add half flour to the creamed mixture and cream well.

5. Add the remaining half with finger tips.

6. Add water to it to get piping consistency.

7. Fill the mixture into the piping bag with a big star nozzle pipe biscuits on a greased tray.

8. Bake at 160°c for 20 min. or

Butter cream

1. Cream fat till light & fluffy. Add icing sugar & cocoa powder and cream well. Add chocolate colour and essence as per required.

2. Sandwich this butter cream between two biscuits.

Bchelor buttons

Baking temp - 160°c Baking time – 25 min.

Ingredients	Quantity	Rate/unit	Amount
Flour	110g		
Pw sugar	55g		
Fat	55g		
Egg	1 no.		
Vanilla essence	½ tsp		
Castor sugar	As required		

Methods

1. Cream fat and sugar together till light and fluffy.
2. Separate egg yolk and egg white and add yolk to the cream mixture and add flavoring agent and mix.
3. Fold the flour with finger tips and mix tightly to form soft dough.
4. Divide the dough into 10 equal portions and give them round shape.

5. Give depression in the center of the cookies and dip with stiffed egg whites and toss them in castor sugar.
6. Arrange on a prepared baking sheet and bake for 25 min at 160°c

BREAD AND BUTTER PIDDING

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Bread	16 slices		
2	Milk	1 Lt		
3	Sugar	150g		
4.	Vanilla Essence	5 ml		
5	Egg	5 Nos.		
6.	Butter	50 g		
7	Cashew Nuts	40 g		
8	Raisons	40 g		
9	Cinnamon Stick	1 Stick		
10	Nut meg Powder	1 g		
11	Lemon Colour	1 Drop		

Method:

1. Cut the bread in triangle slices.
2. Set in the dish (cake tin).
3. Boil milk with nutmeg powder and cinnamon sticks powder.
4. Then cool the mixture and add sugar, egg and essence one drop of lemon color.
5. Now arrange the mixture with bread and cashew nuts, Raisin and Butter decorate on it.
6. Bake it on a double boiler at 150-160c or 20-25min.

Caramel Custard

Ingredients	Quantity		
Milk	250g		
Egg	3no		
Grain sugar	15g		
Icing sugar	¼ tsp		
Nutmeg powder	1Pinch		
For caramelization			

Method

1. Caramelize sugar in the mould.
2. Warm the milk add sugar beaten eggs with vanilla essence nutmeg Powder.
3. Keep Steaming till sneer dissolver.
4. Strain with the muslin cloth and pour this mixture in the mould.
5. Bake on a double boiler for180c for 30-45 min.
6.

QUEENS PUDDING

Baking Time 20-30 min Baking Temp-160˚c

Ingredients	Quantity		
Bread slices	8 no		
Butter	50g		
Egg	3 no		
Milk	300ml		
Grain sugar	60g		
Vanilla essence	½ tsp		
Cashew nut	25g		
Raisins	20g		
Egg white	2 no		
Icing sugar	20g		
Sugar	-		

Method

1. Prepare a custard using egg, milk, sugar, vanilla essence.
2. Cut edges of the bread slices and cut them into triangles.
3. Grease pie dish with butter and arrange bread slices.
4. Pour the custard over it.
5. Garnish with cashew hut and raisins.
6. Make thick meringue using egg white and icing sugar.
7. Pour it on the bread slices and bake at 160˚c for 20-30 min.

LEMON SOUFFLE

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Eggs	4Nos.		
2	Lemon(Juice & Zest)	2 Nos.		
3	Sugar	120gm		
4	Fresh Cream	259ml		
5	Lemon Colour	Few Drops		
6	Lemon Essence	Few drops		
7	Gelatin	15gms		

Method:-

1. Soak gelatin in cold water.
2. Lightly grade zest of the lemon.
3. Add lemon Zest, Sugar, Lemon Juice to the egg yolk.
4. Whisk it over a pan of hot water until mixture is pale and thick.
5. Add melted gelatin to the mixture.
6. Whip cream over a bid of crushed ice and pour it into the mixture.
7. Fold in the stuffy beaten egg white and pour the mixture into the shuffle dish.
8. Place it into refrigerator for setting.
9. Serve Garnish with pistachio, nuts whipped cream, grated lemon zest.

CHOCOLATE MOUSSE

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Chocolate	250 g		
2	Butter	50 g		
3	Egg	3 Nos.		
4	Sugar	50 g		
5	Cream	300ml		
6	Gelatin	10 g		
7	Rum	15ml		

Method:-

1. Melt chocolate and incorporate in melted butter.
2. Beat egg yolk and sugar on double boiler.
3. (Add Dissolved Gelatin) mix chocolate in over hot water.
4. Whisk cream and mix with chocolate mixture.
5. Beat egg white till stiff and fold in the chocolate mixture.
6. Pour the mixture in hot mould and refrigerate.
7. Demould and serve.

COFFEE MOUSSE

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Mile	250 ml		
2	Eggs	3 Nos.		
3	Sugar	100 g		
4	Gelatin	15 g		
5	Fresh Cream	250ml		
6	Coffee Pw	2 g		

Method:-

1. Soak gelatin in cold water
2. Prepare cream Auglaize (egg custard) with milk, egg yolk and sugar
3. Heat Gelatin in water and add to cream Auglaize mixture and dissolve coffee power slightly to bring it to room temp.
4. Whip cream to sabayon stage
5. Fold the cream to crème anglaise mixture over a bed of crushed ice
6. Fold in the stiffly beaten egg white

7. Pour the mixture in a wet mould and set it in the refrigerator for 15 to 20 min or half an hour.

COFFEE BAVAROISE

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Milk	250 ml		
2	Yolk	2 Nos.		
3	Sugar	60 g		
4	Fresh Cream	250g		
5	Coffee Pw	5 g		
6	Gelatin	10 g		
7	Vanilla essence	2 ml		
8	Chocolate Dark	50 g		

Method:-

1. Soak gelatin in cold water.
2. Blend egg yolk with sugar and milk.
3. Cook till coating consistency on a double boiled.
4. Strain the mixture and cool.
5. Fold in the whipped cream.
6. Pour the mixture in wet mould.
7. Set it in refrigerator.

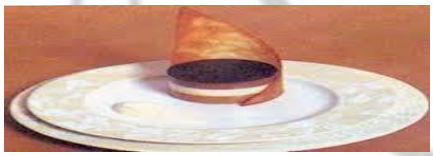
8. Demould and sieve the cream shortly.

Note:

- For Vanilla bevaroise add vanilla essence in place of coffee powder.
- For Chocolate bevaroise incorporate method chocolate

Ingredients	Quantity	Rate/units	Amounts
Milk	200ml		
Egg	2 No		
Sugar	100g		
Gelatin	15g		
Whipped cream	200ml		
Coffee powder	1gm		
Cocoa powder	10g		

Bavaroise Rubain



Method

1. Prepare custard using milk, sugar, egg yolk, on a double boiler.
2. Soak and melt the gelatin and it into the mixture.
3. Divide the mixture into three parts.
4. Add coffee powder, vanilla essence and coco powder in each of the respectively.
5. Divide with cream into three parts and add each parts chocolate, vanilla and divide into three parts mixing respectively.
6. Heat the egg white and divide into three parts mixing respectively.
7. Pour the chocolate mixture into 1/3 parts of jelly mould.

8. Let it set in refrigerator for 15-20 minutes.
9. Pour vanilla essence mixture into remaining mould and set in refrigerator for an hour.
10. Demould and garnish with fresh cream and chocolate decoration.

CHOUX PASTRY

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Water	100ml		
2	Butter	40 g		
3	Flour	60 g		
4	Egg	1.5 to 2 No.		

FOR FILLINGS

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
1	Cream	250ml		
2	Castor Sugar	50 g		
3	Vanilla Ess	2 ml		

TOPING

Sr. No.	Ingredients	Quantity	Rare/Unit	Amount(Rs.)
4	Dark Chocolate	150g		
5	Fresh Cream	100 ml		

Method:-

1. Put water and fat give it to boil
2. Add sieved flour at a slow flame and mix well until the mixture, leave the sides of pan.
3. Bring it off the flame.

4. Let the mixture come at room temp.
5. Add eggs (in batches) beating well until piping consistency is achieved.
6. Put the mixture in piping bag and pipe 1.1/2 inch. Diameter roundels.
7. Bake it at 220degree Celsius for first 15min. (without opening the door of oven) remove from oven and rebake at 150degree Celsius for another 10-15min.
8. Remove from oven and cool, fill each piece with sweetened flavored whipped cream

NOTE:

For Ganache - Bring cream to boil in heavy bottom pan and chopped chocolate and stir on low flame until the mixture melts and make a thick and shiny mixture.

Palmiers

S No.	Ingredients	Qty		
1	Flour	250g		
2	Fat	150g		
3	Salt	1.t.s		
4	Lemon	½ no		
5	Egg	1no		
4	Sugar	20g		

Methods

1. Sieve Flour and salt and mix twice and add lemon juice and knead it with soft cold water to make soft dough.
2. Cream fat and lemon. 10g of fat out of total and kneed into the dough.
3. Cool the dough for 10-15 min and divide the remaining fat in three equal parts.
4. Roll the dough in a rectangular shape and apply one part of fat over 1/3 of the dough then put it for resting in the refrigerator for minimum 15 minutes.
5. Repeat this process three times and fourth time make a blind folding without fat.
6. Then final resting will be of minimum 4-5 hours.

7. Then roll the dough into ½ inch thin slice.
8. place it in baking tray and sprinkle some singer end make egg or milk was
9. Bake at 200c for30-35min.

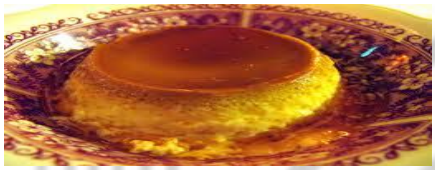
Chocolate Swiss rolls

Ingredients	Qty	Rate/unit	Amount
Refined flour	70gms		
Cocoa powder	15gms		
Egg	3 no.		
Sugar	85gms		
Baking powder	1/4tsp		
Vanilla essence	Few drops		
Fresh cream	200gms		
Chocolate truffle	50g		

Method

1. Sieve flour with cocoa powder and baking powder.
2. Beat eggs with sugar and vanilla eggs till sift and peak custard consistency is obtained
3. Add flour into the batter into these step an mix by fad meteor
4. Transfer this better into Swiss roll tray lined with butter paper
5. Spread the butter evenly on the tray and bake at 180 c for 12-1min
6. When baked remove it on another butter bake and let the stem slaps

7. Mix whipped carom with chlorate truffle and with butter paper twill it sets
8. Cut into desired shape.



Diplomat Pudding

Ingredients	Qty	Rate/unit	Amount
Milk	25g		
Gelatin	10g		
Egg	2 no.		
Sugar	60g		
Sultanas	20g		
Currant	20g		
Flavouring agent	½ tsp		
Glucose biscuits	20g		
Cherry	20g		

Methods

1. Beat together egg yolk and sugar till and fluffy.

2. Pour boiling milk over and return to heat and cook to a custard consistency.

3. Remove from heat and add gelatin dissolved in warm water , mix well, cool, and fold in stuffy beaten egg whites.

4. Decorates bottom of greased jelly mould jelly moulds with some flavouring agent and cherries till half.

5. Put a layer of glucose biscuits dipped in fruits juice.

6. Put some currants over fill with remaining mixture set in refrigerator.

7. Turn out when cold and decorate with remaining fruits.

Apricot pudding.

Ingredients	Qty	Rate/unit	Amount
Butter	125g		
Fat	100		
Brown sugar	225g		
Eggs	3 no.		
Almond essence	1/2 tsp		
Flour	225		
Baking pw.	½ tsp		
Apricot	100g		
Flaked almonds.	30g		
Demarara sugar	1 tsp		
Ground almonds	110g		

Methods

1. Sieve flour and baking powder.

2. Cream fat & sugar together.

3. Beat eggs with almond essence.

4. Beat eggs with almonds essence.

5. Add chopped almonds in flour.

6. Mix fat and flour together.

7. Pour the butter in prepared cake tin.

8. Bake at 140°c for 40-50 min.

ALBERT PUDDING

Time – 25to 30 min

Temp -180˚c to 200˚c

Ingredients	Quantity	Rate/unit	Amount
R. Flour Powder Sugar Egg Fat Vanilla egg Banking Pw Jam	60g 60g 1 no 50g 1/4tsp A pinch 25 g		

Method

1. Sieve the flour twice with baking powder and keep aside.
2. Cream fat and sugar till light and fluffy
3. Beat the eggs with spring beater to make a froth and add vanilla essence to it

4. Add this beaten egg gradually in creamed mixture and continue creaming
5. Add sieved flour into the mixture and adjust the consistency by adding moistening agent to it.
6. Pour this batter in a prepared jelly mould.
7. Decorate it with glazed cherries at the bottom, cover it with the grease proof paper and steam it for 25-30 min (like Vienna bread) at 200˚c
8. Demould and decorate it with jam sauce.

Orange Muffins

Ingredients **Quantity**

Flour	100gms		
Fate	100gms		
P singer	2 no		
Figs	¼ no		
Orange essence	Few drops		
Orange color	Few drops		
Baking powder	¼ tsp		

Method

1. Sieve flour with baking pw keep side

2. Cream fat d sugar to gather till light d fluffy add in beaten eggs with arrange essence cram well put few drops d argue into the mixture d cream properly
3. Mix the flour into the batter with finger tips
4. Add water for dropping consistency
5. Pour this mixture in to a paper cups placed into the mull in tray
6. Bake at 150 degree Celsius for 25-30 min