
UNIT: 01

INDIAN COOKING

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1.1 INTRODUCTION

Once we think of India we think of food we think of the colour we think of the aromas and textures that create sensation over our taste buds. India is a diverse country having numerous states and languages having a multitude of culinary styles to choose from there's one thing special about this cuisine that it is so friendly to the palate that every meal across the country is diverse and becomes palatable treat

India has a rich gastronomic heritage write from Alexander to Nadir Shah to Shershah Suri to Babar all had a middle east connect therefore Central Asia and Mediterranean has played an important role in enhancing the Indian culinary traditions and making the cuisine so diverse. The cuisine has also been largely affected by the European traditions. Being a British colony the food of certain states have a keen dominance of the European gastronomy, be it the Anglo Bangle Cuisine or the Portuguese and French influence over the Indian food.

It is so fine that it generally income passes all the styles of gastronomy discovered till date in one or the other form it keeps in mind the climatic conditions and the health

concerns basic aspects like colour Aroma texture style of service all enrich our culinary traditions food plays an important role in all the celebrations and festivals.

Indian cuisine comprise of various regional cuisines which are centuries old. The dishes of India are largely characterized by wide application of an assortment of spices, herbs, vegetables and fruits. All the main branches of Indian cuisine include a wide assortment of dishes and cooking techniques. The cooking styles also vary from region to region, reflecting the extensive demographics of the culturally diverse subcontinent.

Owing to the variety of the type of soil, climatic conditions and demographic profile of the customers, these cuisines differ from each other and utilize locally grown spices, herbs, vegetables, and fruits.

Cooking is basically a combination of Art and Science India is enriched with a diverse background and a historical past and delightful cuisine. Indian cuisine is undoubtedly the composition of the mouth watering regional cuisines which have their own identity characteristics and uniqueness in every state of this country. Every state has their specific cuisine and all these regional cuisines collectively combined together form the delightful Indian cuisine

Since the ancient times the people of India have been blessed with the refined epicurean senses that have contributed towards the development of this magnificent cuisine with incredible cooking perspectives and foundations. No one can remain without being amazed by the magical flavours and the delightness this cuisine has been blessed with. Mythological beliefs and the traditions have played an important role in the development of Indian cuisine, but with the invasion of India by the Romans, followed by the Muslims and then by the French and the British the cookery across India also developed ,making it a typical mix of diverse cooking styles.

Indian cuisine has a 5000 year old history consisting of various groups, resulting in the mixture of flavors and diverse local cuisines found in India. The growth of these cuisines has been formed by Hindu and Jain beliefs, mainly in vegetarianism which is a widespread dietary trend in Indian civilization. There was also Islamic influence from the time of Mughal and Delhi Sultanate rule, and Persian exchanges on North Indian and Deccan cookery. Indian cuisine has been and is still developing, due to the nation's cultural exchanges with other societies. Historical incidents such as overseas invasions, trades and colonial system have also played an important role in influencing eating habits. For example, potato, which is a staple food in the North Indian cuisine was introduced in India by the Portuguese.

1.2 OBJECTIVES

After reading this unit the learner will understand:

- Philosophy of Indian Food
- Key features of Indian Cuisine
- Classification of Food Based on Nature
- Classification of Food Based on Vargas
- Classification of Foods Based on Nutrients
- Regional Influences on Indian Food
- Indian Regional Cuisine

1.3 PHILOSOPHY OF INDIAN FOOD

Since the ancient times the people of India have been blessed with the refined epicurean senses that have contributed towards the development of this magnificent cuisine with incredible cooking perspectives and foundations. No one can remain without being amazed by the magical flavours and the delightness this cuisine has been blessed with.

An era is a specific time span marked by distinct features characteristics and events that have resulted in the modifications of the society from a particular point on event. An era may be referred as a longer interval of time or period which when put into a calendar system may also be referred as a calendar era. In the Prehistoric Times the era in context of Indian Culture were known as ‘yugas’.

1.3.1 The Pre Ancient Era

Based on the various references on what man used to eat the fruits appear to have been his main food during the early phase of stone age period with the passage of time meet began to feature in the mail of the early homo stabilis. during the early stone age man used to hunt animals and the consumption of meat increased rapidly in his meals. Around 10000 BC the agriculture started and this reduced his dependence on hunting of the animals for food about 250000 years ago in the second phase of the stone age man used tools like heavy clubs syllabus and access to kill these animals which have been un earthed from various sites in India. During the middle stone age tools like pointed stones Axes, spears, knives clearly indicate that meat was a part of the major meal.

During the new stone age these tools what more polished and refined they have been found across the country and indicate that meet was an indispensable part of the diet. it is generally assumed that with the discovery of Fire around 1.4 million years ago the for some the for give the and And the Roasting of the meat would have occurred unintentionally due to the forest fires it is also generally assume that in the early ages the method used for cooking was only roasting. It is also believed that about 7000 years back the clay boiling pot was discovered and around 3000 BC with the advent of the metal age man started cultivation and started growing his own food that led to the development of the society.

1.3.2 The Ancient Era

During the ancient era which is considered to be a period from 2500 BC to 35080 Indus Valley Civilization flourished for 8000 years which is also considered to be amongst one of the earliest known civilization of South Asia during to the bronze age cultures

in the Indus valley civilization various fruits and dates where common and several wild animals where treated as food at least 4 varieties of wheat and Barley where raised as the major died pulses like Peas chana and Bengal gram also find a place in the references it is also seen that sesame seeds and rice where also commonly used the presence of mass storage arrangements of food grains clear that cereals and pulses would have been used in abundance flat metal and clay plates have been found in plenty at the Harappan sites

classified on the basis of nature, on the basis of class (vargas)and on the basis of nutrients.

1.4.1 Classification of Food Based on Nature

Food can be categorised into 2 parts the Satvik food, Tamsik food, and Rajsik food. Satvik is something that creates a harmony with the realisation of inner self and helps in developing synergy with the divine. The satvik foods are easy to digest and support spirituality; they come with purity and prolongs life by giving strength health and happiness. Prime examples include fruits juices oils jiggery, Honey vegetable dry fruits spices etc.

Whereas tamsik food consists of toxic energies and is harmful for the body and the mind. these foods are cold stale resulting in a slow digestion sluggishness and are not at all good for health stale, tasteless and decomposed food which are putrid in nature come under this category examples include alcohol fermented foods pork, beef and non scaly fish.

Rajsik food Rakshak foods are bitter sour salty pungent dry and have a burning effect. They make a person restless. The food may be fresh but is very heavy and causes distress misery and disease. It may contain a little bit more oil and is heavily spiced as compared to the satwik foods.

1.4.2 CLASSIFICATION OF FOOD BASED ON VARGAS:

Food materials were classified on the basis of various classes also known as vargas. The food was Classified on the basis of of how the food was cultivated.

Anna: Foods that we are grown using flow like rice wheat Barley and lentils were termed anna.

Phala: Food items that grow without cultivation like wild grains, Vegetables and fruits.

Apart from this food materials were classified into various vargas which match reasonably close to the divisions in use today.

- Payovarga (Milk Products)
- Mamsavarga(Animal Meats)
- Madhyavarga(Alcoholic Beverages)
- Sukhadhanya (Cereals)
- Samidhanya (Pulses)
- Shakna (Vegetables)
- Phala (Fruit)
- Supyam(Spices)

1.4.3 CLASSIFICATION OF FOODS BASED ON NUTRIENTS

Food provides us with six essential nutrients which include Carbohydrates, proteins, fats, vitamins, minerals and water. Therefore on the basis of the nutrients food can be classified as follows:

Carbohydrates	:	Includes cereals, starchy roots, tubers etc
Protein	:	Includes pulses legumes, nuts, eggs, milk, meat and fish based products.
Fat	:	Includes Butter, cream, oils, seafood, oilseeds
Minerals	:	It includes calcium, phosphorous, Sodium, Chloride, Potassium, Iron, Iodine
Vitamins	:	
Vitamin A	:	Offal, fish based oils and fats,, dairy products, green leafy vegetables
Vitamin D	:	Fats obtained from fish, cod liver oil, seafood, dairy products and sunshine
Vitamin E	:	Oils, Fats, green leafy vegetables, liver, tomatoes, nuts and oil seeds.
Vitamin K	:	It includes chlorophyll which is found in green vegetables, legumes, cucumber, peas, oils and fats.
Vitamin B	:	It includes vitamin B1 or thiamine sources are Husk, bran of Whole grains, legumes, sunflower, fish and ham , Vitamin B2 (Riboflavin) sources are Dairy products, egg, fish, chicken , Vitamin B3 (Niacin) sources are sunflower seeds, seafood, mushrooms, Vitamin B5 (Pentothenic acid)sources are dairy products, fish egg, Vitamin B6 (Pyridoxine)dairy products, meats, seafood, poultry, potato and bananas. Vitamin B7 (Biotin) sources are cooked eggs, liver, fish egg peanut, whole grains,Vitamin B12(Cyanocobalamin) sources are meat products, poultry and chickpeas, Vitamin C(Ascorbic acid) sources include citrus foods like lemon,sweet lime orange etc.

CHECK YOUR PROGRESS-II

1. Classify food based on the nature?

2. Classify food on the basis of nutrition?

1.5 REGIONAL INFLUENCES ON INDIAN FOODS

India happens to be a land of diversity. Spreading from Bengal and North Eastern states on the east to states of Rajasthan and Gujrat in the west and from Kashmir in the north to Kerala and Tamilnadu in the south it offers a plethora of dishes , each having a distinct taste , colour and texture. The food changes after every few kilometers. A land where people of several religions, creeds and casts reside to be a unified nation, with each caste possessing its distinct cooking style.

Indian masala blends have also influenced the other cuisine of the world due to the finest blend of spices grown here in India. Staple foods of Indian cuisine include cereals like wheat, barley, maize rice and corn. A wide variety of lentils like chana , moong ,masoor, toor, urad etc are a part of the daily diet. Lentils may be used whole, or split. Split lentils, or dal, are used comprehensively. Some pulses, such as Kabuli chana , Rajma , lobiya are very common in the northern regions.

Use of oils and fats as cooking mediums is also diverse . For example Desi ghee, is used frequently, though the consumption has decreased significantly due to the high cost. Peanut oil is used in Andhra and Maharastra regions. Mustard oil in north and northeastern states of the country. Coconut oil is used widely along the western coast, especially in Kerala and Tamilnadu. While gingely oil is common in the south as it imparts a aromatic nutty aroma to food. In recent times, sunflower and soybean oils have also become popular. Hydrogenated vegetable oil, also known as Vanaspati ghee, is yet another popular cooking medium.

1.5.1 Indian Regional Cuisine at a Glance

According to oxford dictionary, word cuisine means, ‘A style or method of cooking, especially as characteristic of a particular country, region, or establishment’. Regional cuisine is based upon national, state or local regions. It may vary based upon food ingredients availability, varying climates, cooking traditions and practices, and cultural differences. The Indian regional cuisine is studied in following sections:

1. South India

- a. Andaman and Nicobar Islands
- b. Andhra Pradesh/ Telangana
- c. Hyderabadi.
- d. Goa
- e. Karnataka
- f. Kerala
- g. Lakshadweep
- h. Daman and Diu
- i. Pondicherry
- j. Tamilnadu

2. North East

- a. Arunachal Pradesh
- b. Assam
- c. Manipur

- d. Meghalaya
- e. Mizoram
- f. Nagaland
- g. Sikkim
- h. Tripura

3. North India

- a. Jammu & Kashmir
- b. Himachal Pradesh
- c. Punjab
- d. Haryana
- e. Rajasthan
- f. Uttar Pradesh
- g. Madhya Pradesh
- h. Uttarakhand

4. Western India

- a. Gujarat
- b. Maharashtra

5. Eastern India

- a. Bengal
- b. Orissa
- c. Bihar
- d. Chhattisgarh

1.5.1.1 South India

Andaman and Nicobar Islands: Seafood plays an important role in the cookery of Andaman and Nicobar Islands, which are primarily colonized by the local inhabitants. In the past times they had brief contact with the exterior world. Raw fish and fresh fruits have been served here as their staple food since the old times, but with the cultural exchanges with other parts of India, the cuisine has diversified to a major extent .

Andhra Pradesh/ Telangana: The gastronomy of this region is frequently referred to as Telugu and Hyderabadi cuisine. Rice is the staple ingredient and is usually eaten with an assortment of curries and soups. Even though most of the population is vegetarian, people residing in the coastal areas are advent seafood admirers. Use of green chilli, coconut and tamarind is high.

Andhra Food is known for the plentiful application of spices and chilies. Pickles are frequently used and Curd preparations are used to reduce the effect the spiciness of the food. Vegetarian food, and is normally served during breakfast and lunch. Breakfast dishes like Dosa, Vada may have origins from Udipi, Karnataka cuisines but are flavoured by spices of Andhra Pradesh.

Hyderabadi Cuisine is popular for its succulent meat preparations and is a blend of the traditional cuisine of Andhra Pradesh and the Moghlai cuisine. Hyderabadi Biryani is popular for its excellent flavor and is a result of the Persian style of gastronomy.

Goa: Goan cuisine is a blend of Hindu genesis, Portuguese colonialism, and the modern gastronomy. Goan Saraswat Brahmin and Daivajna Brahmins are passionate non-vegetarian food lovers, whereas Brahmins belonging to Pancha Dravida are strictly vegetarian. Seafood, coconut milk and rice are main ingredients of popular Goan delicacies. There is a high consumption of fiery spices, which are ground and used as pastes to flavor the gravies and curries. The region has a tropical climate, and the spices and flavors are strong. Use of Kokum is common. The cuisine is generally seafood based with staple foods being the rice and fish. Popular fish delicacies include Kingfish (Vison or Visvan), followed by pomfret, shark, tuna and mackerel. Popular shellfish include lobster, crabs, tiger prawns, prawns, mussels and squid.

Karnataka: The gastronomy of Karnataka is a blend of many vegetarian and non-vegetarian mouthwatering delicacies. The cuisine has a significant influence of the food habits of the bordering South Indian states, as well as Maharashtra and Goa. The raw banana preparations are very popular. Some characteristic dishes include Ragi mudde, Bisi bele bath, Saaru, Jolada rotti, Ragi rotti, Chapati, Huli, Akki rotti, Vangi Bath, Kesari Bath, Khara Bath, Davanagere Benne Dosa, and Uppittu. Masala Dosa, Mysore Masala Dosa, Plain and Rave Idli, and Maddur Vade are popular in South Karnataka.

Coorg region is famous for its spicy pork curries whereas coastal Karnataka is popular for seafood specialities. Mysore Pak, Chiroti, Dharwad pedha are popular sweets. A typical Kannadiga Oota (Kannadiga meal) consists of the following dishes in the order specified and is served on a banana leaf: Uppu(salt), Kosambari, Pickle, Palya, Gajju, Raita, Dessert, Thovve, Chitranna, Rice and Ghee. The coastal area of Mangalore and Udupi has a slightly different gastronomy with widespread use of coconut in curries and liking towards sea food. Some common Mangalore specialities are kori rotti, pathrode, neer dosa, pundi, goli baje, basale (type of spinach), tendli kaju, kashi halva, etc.

Kerala: The cuisine of Kerala is a blend of the traditional and the foreign food suitably modified to satisfy the Kerala palate. Coconuts grow plenty in Kerala, and as a result, grated coconut and coconut milk are extensively used in gravies and curries as a thickening and flavouring agent. The long coastline, several rivers and backwater networks provide an assortment of sea food. Rice is grown in profusion. Spices such as black pepper, cardamom, cinnamon and cloves play a pivotal role in the Kerala gastronomy. Kerala cuisine has a huge number of both vegetarian and non-vegetarian delicacies prepared using fish, poultry and meat. Rice and fish along with a number of vegetables is the staple food in most Kerala households. Kerala also possesses a variety of breakfast dishes like idli, dosa, puttu, pathiri, appam and idiyappam.

Lakshadweep: The culinary influence of Kerala is evident in the cooking of Lakshadweep. Since the island has a close closeness with Kerala, the cuisines reflect the taste of Kerala food. The local food of Lakshadweep primarily comprises of coconut and sea fish. Coconut water is the most popular drink.

Daman and Diu: Daman and Diu is a former Portuguese colony. The food is primarily influenced by Gujarati cuisine. Portuguese food are commonly available and the cuisine

has somehow evolved as a blend of the two. Liquor consumption is not a taboo and is a common practice in society.

Pondicherry: Pondicherry is a union territory of the Republic of India and was a French colony during the pre independence era. The French left a profound impact on the lifestyle of the natives of Pondicherry, and food was largely influenced. The French and the Indo style have given birth to an pioneering taste. The influence of the adjoining areas like Tamil Nadu, Andhra Pradesh and Kerala is also visible on the gastronomy. Popular foods in Pondicherry include Coconut Curry, Tandoori Potato, Podanlangkai, Assad, Curried Vegetables, Stuffed Cabbage, Baked Beans etc.

Tamil Nadu: The food of Tamilnadu is characterized by rice, legumes and lentils, its discrete aroma and flavour achieved by the unification of spices including curry leaves, tamarind, ginger, garlic, chili, pepper, nutmeg, cinnamon, cloves, cardamom, coriander, cumin, coconut and rosewater. The word "curry" is originating from the Tamil word 'kari' which literally means an accompaniment to the main course. Rice and legumes play an significant role in Tamil cuisine. Lentils are also used widely, either accompanying the rice preparations, or in the form of independent delicacies. Vegetables and dairy products are necessary side dishes. Tamil Nadu is famous for its spicy non vegetarian dishes, which come under the chettinad region.

1.5.1.2 North East

Arunachal Pradesh: The staple food of Arunachal Pradesh is rice, moreover meat, fish, and the green vegetables are also popular. Lettuce is a commonly grown vegetable. Boiled rice cakes wrapped in the leaves are a popular snack item. Thukpa is a noodle based soup popular among the Monpa tribes of Arunachal Pradesh.

Panta Ilish is a customary platter of panta bhat with fried ilish slice, which is supplemented through the dried fish, lentils, green chillies, pickles, and onion. It is a customary serving for the Pohela Boishakh celebration.

Assam: The cookery of Assam, which a state in North-East India is a mixture of diverse unique styles. A substantial regional distinction and numerous external influences have played an important role in the development of this cuisine. Though there is a restricted use of spices in the cuisine, the flavors are dominant due to the widespread use of exotic herbs, fruits and vegetables. These fruits and vegetables are used fresh, dried or fermented. Fish, duck and pigeon are widely consumed. Preparations are rarely elaborate. A traditional Assamese meal begins with a khar, and ends with a tengawhich. The food is customarily served in bell metal utensils.

Manipur: Manipur is a small north eastern state. Manipuri cuisine is uncomplicated, natural and healthy. Dishes are characteristically highly spiced and chili peppers are commonly used. The staple diet includes rice, green leafy vegetables and fish. Manipuris frequently cultivate vegetables in their kitchen gardens and rear fish in small ponds. Umari is one very popular chili that is widely used in the cuisine and is known by various names in the other north eastern states, such as the king chili, naga jolokia, ghost chili etc.

Meghalaya: Meghalaya is a North Eastern state adjoining Assam. The staple food of Meghalaya is rice along with spicy meat and fish preparations. All sort of meat including lamb, pork, beef and game birds is common. Popular dishes include Ki Kpu, Jadoh, Tung-rymbai and pickled bamboo shoots. Hadia, is a popular alcoholic drink consumed during major ceremonies and celebrations.

Mizoram: The cuisine of Mizoram is quite similar to the cuisines of other North-Eastern states of India. The Mizo cuisine is a mixture of the Chinese and the North Indian Gastronomy. The cuisine offers a wide selection of non-vegetarian delicacies, the dishes are served in the customary traditional way over fresh banana leaves. Meals are usually mild and simple in flavor, thus retaining the nutritive value of the preparations. Bai is a popular main course served with rice, prepared by boiling bamboo shoots and spinach along with pork.

Nagaland: The cookery of Nagaland is acknowledged for its meat based delicacies which are cooked with simple and flavorful ingredients like fermented bamboo shoots, soya beans and the enormously hot bhut jolokia or ghost chili. Dog Meat is extensively consumed and is a delicacy. The natives use minimal oil in their cooking, instead they prefer to ferment, dry out and smoke their meats so that the food remains light.

Sikkim: Sikkim is a northeastern state known for its scenic Himalayan beauty and tribal culture. Sikkim has its own exclusive food culture. The traditional food is an integral part of the dietary culture of the natives which mainly comprise of the Nepalese, Bhutias and Lepchas. Rice is the staple food. Meat and dairy products are consumed in abundance. Depending on the altitudinal variation, finger millet, wheat, buckwheat, barley, vegetable, potato, soybeans, etc. are cultivated.

Tripura: Tripura is a state lying in the North Eastern part of India. The native Tripuri people comprise of the communities of Tipra, Reang, Jamatia, Noatia, Uchoi etc. The people of Tripura have a traditional culture and cuisine. The people are non-vegetarian, although there is a minority Hindu vegetarian following. The major ingredient of Tripuri's cuisine for non-vegetarian food include pork, chicken, mutton, turtle, fish, prawns, crabs, and frogs. Thupka is a famous dish of Tripura.

1.5.1.3 North India

Jammu & Kashmir: Also known as Wazwan, The cuisine of Kashmir has evolved over centuries. Right from Kashmiri Hindus and Buddhists to the incursion by Timur Lung, to the Moghuls and the influence from the North Indian plains, the cuisine has developed notably.

Both the Hindus and the Muslims eat mutton as the major ingredient though the Kashmiri Pandit food does comprise of onion, & garlic, as it is considered Tamsik (Something that hinders connectivity with the higher self). The Kashmiri Pandit cuisine usually uses yogurt, oils and spices such as turmeric, Red Chilli powder, Cumin powder, Ginger powder and Fennel Powder. Many non-vegetarian foods are prepared without onion and ginger garlic, but have a dominant flavour of asafetida and ginger powder and fennel.

Himachal Pradesh: Himachal Pradesh which was once a part of the United Province of Punjab has a high influence of the Punjabi style of cooking. The daily diet of natives of Himanchal is related to the rest of north India, and common foods include lentil, broth, rice, vegetables and bread. Lamb and chicken are common non vegetarian delicacies. Popular Himachali dishes include Pateer, Chouck, Bhagjery and Til ki chutney.

Punjab: The main feature of Punjabi cuisine is diversity range of dishes it offers. The natives are basically farmers and the food comprises of large amount of ghee, with liberal amounts of butter and cream concentrating mainly upon preparations based on whole wheat, rice and other ingredients flavored with masalas. The food is rich with abundance of fresh green leafy vegetables, pulses legumes and non vegetarian food chiefly consisting of Lamb, Fish and chicken.

Popular dishes include stuffed parathas, lassi, Mah Di Dal, Saron da saag, makke ki roti . Tandoor is an essential and concept of Sanjha chulha exists which is a part of the community cooking.

Haryana: Haryana which was once a part of the United Province of Punjab has a high influence of the Punjabi style of cooking. The cuisine of Haryana is known for the widespread use of dairy products. Popular delicacies include Kadhi Pakora, Singri ki Sabzi, Besan Masala Roti, Churma, Kheer, Bathua Raita, Methi Gajar, and Tamatar Chutney.

Rajasthan: Rajasthan is known for its palaces , forts and its rich cultural heritage. The Rajasthani cuisine is majorly influenced by the availability of ingredients cultivated in this region. Due to the scarcity of water the food is generally cooked in milk or ghee, making it rich and heavily spiced. Gram flour is commonly used in the Marwari food mainly because of the scarcity of vegetables in this region. Maize , Corn and gram are the staples. The vegetables are generally sun dried in summers and are kept to be used in the winters. The famous ones include panchkuta and Ker Sangri.

Scarcity of water and fresh green vegetables has effected the cooking styles to a certain extent therefore making the food rely on the dry pulses, flours dried vegetables and ingredients having high shelf life . The food is extremely spicy because of the climatic conditions as spicy food will increase perspiration making the body cool. Major dishes of a typical Rajasthani platter shall comprise of Daal-Baati, Tarfini, Raabdi, ghewar, Bail-Gatte, Panchkoota, Chaavadi, Laapsi, Kadhi and Boondi, and snacks like Bikaneri Bhujia, Mirchi Bada, Pyaaj Kachori, Dal Kachori, mawa kachori etc.

Uttar Pradesh: The state of Uttar Pradesh lies in the northern part of India. Traditionally the cuisine of Uttar Pradesh comprises of Awadhi, Mughlai and rampuri cuisine. A common everyday meal is vegetarian with the inclusion of Dal, roti, sabzi and rice as the essential diet. Fried breads like Pooris and kachoris are relished on special occasions. The food of Uttar Pradesh is influenced by Mughal (Mughlai cuisine). Chaat, samosa and pakora, are the common snacks from Uttar Pradesh. Awadhi is popular cuisine originating from this region famous for its non vegetarian delicacies like Kormas, kebabs and pulaos. The natives of eastern Uttar Pradesh eat more of rice whereas the western population consumes more of wheat and grain products.

Madhya Pradesh: The cuisine in Madhya Pradesh contrast from district to district, with the north and west largely based around wheat and meat, and the south and east by rice and fish. Gwalior and Indore are popular for their dairy based preparations. Bhopal is known for the mouth watering meat and fish dishes, such as rogan josh, korma, keema, biryani pilaf and kababs such as shami and seekh, popularized during the Nizami rule. One other popular dish in the region is the Dal bafla. Bafla is a steamed and grilled wheat cake immersed in rich ghee which is eaten with daal. It is followed by sweet ladoos. Another popular dish in Malwa region is poha, it is mostly a breakfast item served with Jalebi.

The cities of Indore, Ratlam and Ujjain are famous for their savory snacks made from chick-pea flour. Tasty chaats (snacks), kachoris and samosas are commonly served. During summers, the meals conclude with fruits such as dusseharis mangoes, melons and watermelons, bananas, papayas and guavas. Popular beverages include lassi and sugarcane juice. Among the alcoholic beverages drinks prepared from mahua tree and date palm toddy are popular drinks.

Uttarakhand: Uttarakhand is a mountain state in northern india. Its also known as the land of Gods. The food is rich and is traditionally cooked over wood fire. The cuisine mainly comprises of food from two different sub regions Garhwal and Kumaon. Though the basic ingredients of both the cuisines remain the same, the two are different on some basic aspects like the use of milk in Kumauni cuisine is scarce as cows from hilly areas do not yield high amount of milk. The people of both Garhwal and Kumaon are fond of lentil or pulses and 'Bhaatt' or rice. To overcome the extreme winters they also use Badi (sun-dried Gehat Dal dumplings) and Mangodi (sun-dried Moong Dal balls) as substitute for vegetables at times. Main dishes from Uttarakhand include Chainsoo, Kafuli, Jholi, Thechwani, Baadi, etc. The food is quite similar to that of Uttar Pradesh. They eat rice, pulses, chapatis, vegetable. Tomatoes, onions and spices in abundance.

1.5.1.4 Western India

Gujarat: Gujarati people are predominantly vegetarian. A usual Gujarati Thali would primarily consist of Roti (Rotli), daal or kadhi, rice, and sabzi/shaak. The cuisine may be sub classified into North Gujarat, Kathiawad, Kachchh, and South Gujarat which are considered as the four major pillars of Gujarati cuisine. Majority of Gujarati dishes are typically sweet, salty, and spicy overall. The food habits vary with the seasonal availability of vegetables. In summers fresh mango pulp(Keri no ras) is an indispensable part of the meal. The spices used also vary as per the season. Garam masala and its constituent spices are reasonably used in summers. Customary fasting, with diets limited to milk and dried fruits, and nuts, is a collective practice. Sesame seeds, peanus, Ginger, Garlic, Khaskhas(Poppeye seeds) are the most frequently used ingredients.

Maharashtra: Maharashtrian food is diverse and covers a wide range of mild to highly spiced dishes. Bajra, jowar Wheat, rice, lentils, vegetables, and fruit form important part of Maharashtrian diet. Popular dishes comprise of Modak, puran poli, ukdiche, wada pav and batata wada. Most of the regular dishes are based on Jowar, Bajri, and Rice. The gastronomy of Maharashtra posseses its own characteristic flavors and tastes. It can be

broadly be divided into two major territories, the coastal and the interior. The region around the coast of the Arabian Sea is known as Konkan and boasts of its very own Konkani cuisine, which is a corresponding mixture of Gaud Saraswat Brahmin, Malvani and Goan cuisines. The Vidarbha area has its own indigenous cuisine famously known as the Varadi cuisine. Just like most of the other states of India, rice is the staple food in Maharashtra. A huge assortment of vegetables, a variety of fish and coconut are commonly used. Though Grated coconut forms a major thickening and flavouring base for the dishes, coconut oil is scarcely used in cooking. Cashew nuts and Peanuts are widely used in vegetable preparations and peanut oil acts as the main cooking medium. Another diverse feature of this cuisine is the use of kokum, which is a deep purple berry having a pleasing sweet and sour taste. During summers a popular drink known panna is prepared using boiled raw mangoes. Apart from Konkan, the rest of the Maharashtra uses wheat, jowar, bajra ground nuts and jaggery on a regular basis. A typical Maharashtrian meal usually comprises of rice and bread along with 'varan' or 'aamtee'.

1.5.1.5 Eastern India

Bengal: The Bengali cuisine originated from the united province of Bengal and can be divided into the cuisine of east Bengal and the cuisine of west Bengal. East Bengal became eastern Pakistan and was later on known as Bangladesh. The cuisine of east Bengal was influenced by the moghlai style of cooking as the residents were mostly muslims. The food of west Bengal emphasizes on the use of fish and lentils served with rice as a staple diet. Bengali cuisine is famous for its subtle flavours, its chhena based confectioneries and desserts. It is perhaps the only multi-course tradition from India that is similar to French cuisine in structure. The nature and variety of dishes found in Bengali cooking are exclusive. A Bengali can not resist the use of fish and common ones include Bekhti, Hilsa, Pomfret, catfish, bass, shad or mullet etc.

Orissa: The gastronomy of Orissa is rich and varied, and relies profoundly on the local ingredients. The flavors are generally delicate and competently spiced, quite different from the searing curries, which are typically linked with Indian cuisine. Sea food delicacies like Fish, crabs and the shrimps are very popular along with non vegetarian products like chicken and mutton. Panch Phoran, which is a mix of cumin, radhuni/mustard, fennel, fenugreek and kalonji (nigella) is widely used to temper lentils and vegetables. Pakhala, an overnight fermented dish which is made from rice, water, and yogurt, is popular in the summer season in mostly in the country side. People are fond of sweets and no meal is complete without dessert. Vegetarian meal prepared using no onion and garlic is used as temple Prasad and is a part of the Bramhin cuisine.

Bihar: The cookery of Bihar is similar to the North Indian cuisine, though it shares some resemblance with neighboring West Bengal and Orissa. People generally stay away from eating non vegetarian food on Tuesday, Thursday and Saturday. The locals usually eat boiled rice and daal along with cooked vegetables for lunch and vegetables with roti for the dinner. Fresh stream fish, chicken and lamb are the popular meats. Non Vegetarian dishes are normally eaten with boiled rice. Fish curry is popular and is prepared in the Oriya fashion of cooking fish with a heavy use of mustard. Dairy products, such as yogurt, buttermilk, butter, ghee are consumed through the year. The region of Champaran is famed for taash which is a grilled mutton dish. Liquid foods, such as watermelon and sherbet made of flesh of the wood-apple fruit, are frequently served

during the summers. Natives usually eat roti soaked in milk, flattened rice (poha) which is served with sweet curd. This region is famous for its sattu ka parathas, which are served with spicy mashed potatoes popularly known as chokha. Another common preparation is alu-bhujia which is prepared by cooking potatoes in mustard oil along with mild spices, and eaten with roti or rice-daal. The food is often accompanied with an assortment of Raita and Chutney prepared by grinding green chilli, ginger, garlic and mustard collectively.

Chattisgarh: Rice is the staple food of Chattisgarh. The tribals food includes Red ants, Flying ants, mushrooms, squirrels, and rats which are considered delicacies. Fish and pork comprise a large part of Chhatisgarhi cuisine. Pork plays an important role in gastronomy and their rituals as all the major ceremonies start with the sacrifice of a pig as an offering to the almighty.

List of popular dishes along with the Place of Origin/ Community Cuisine:

Sr No.	State	Sample Menu
1	Kashmir	Mutton Roghan Josh Karchaman Rajma Gogzi Plain Rice Pineapple Zarda Pulao
2	Punjab	Chicken Masala Palak Paneer Chana Dal Masala Pea Rice Besan Ke Ladoo
3	Rajasthan	Safed Maas Gatta Curry Dal Dhokli Plain Rice Moong Dal Halwa
4	Moghlai/ Delhi	Tandoori chicken Paneer Lababdar Dal Tadka Pea Pulao Moghlai Paratha Kesari Kheer
5	Gujrat	Sali Jardaloo Murgi Ondhiyu Gujrati Kadhi Plain Rice Methi Thepla Mohan Thal

6	Uttar Pradesh / Awadh	Mutton Do Pyaza Navratna Korma Sultani Dal Khumb Biryani Sheer Khurma
7	West Bengal	Macher Jhaal Aloo posto charchary Cholar Daal Ghee Bhat Dorbish
8	Kerala	Chicken Chettinad Avial Sambhar Boiled Rice Doodh Pak
9	Hyderabad	Methi Murg Baghara Baingan Khatti Dal Moti Pulao Double Ka Meetha
10	Maharashtra	Elaichi Gosht Highly Spiced Chowchow Amti Coconut Rice Puran Poli Srikhand

CHECK YOUR PROGRESS-III

1. Write a note on ‘North Indian Cuisine’.

Regional Cuisine: Regional cuisine is based upon national, state or local regions. It may vary based upon food ingredients availability, varying climates, cooking traditions and practices, and cultural differences.

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1.10 TERMINAL QUESTIONS

1. What do you understand by gastronomy? Discuss the scope and Importance of Indian Cuisine.
2. Discuss the salient features of Indian regional cuisine.
3. Plan a sample menu of each regional Indian cuisine.

UNIT: 02

CONDIMENTS, HERBS AND SPICES USED IN INDIA CUISINE

Structure

- 2.1 Introduction
- 2.2 Objectives
- 2.3 Condiments, Herbs and Spices Used in Indian Cuisine
- 2.4 Various Ways of Using Spices, Storage and Usage Tips
- 2.5 Summary
- 2.6 Glossary
- 2.7 References/Bibliography
- 2.8 Suggested Readings
- 2.9 Terminal Questions

2.1 INTRODUCTION

India has been known as the land of spices. It was perhaps because of the famous spice route destination the cultural exchange between other countries evolved that led to the country being invaded by the foreign powers so many times.

The role of Indian spices in context of the Indian gastronomy maybe greeted in the same manner as what Grammar is to a language. Spices since early times have played an important role in the Indian gastronomy and it would be impossible to think of Indian cuisine without spices they are an integral part of the gastronomy and help in giving it its shape its diversity its impeccable combination which have always created a magical impact on the various dishes that comes from such a diversified cuisine and a vast country.

Spices are basically intensely flavour aromatic natural substance of vegetable origin which when added in small amounts to the foods help in enhancing the flavour and Aroma of the food they are essentially dried parts of plants and generally obtained from flowers leaves barks seeds and berries and roots.

They are free from any foreign matter that can be added for seasoning or aromatising the food. They are free from artificial colors and flavours , when added in optimum quantities are responsible for imparting zestiness, tanginess, savouriness and for the development of assortment of flavours and aromas. They may be obtained from various parts of the plants which may include plant tops stigmas seeds roots rhizomes leaves fruits flowers bark and buds.

Since the Early Times spices have played a significant role in the gastronomic history. At one point of time, It was valued just like gold since a big Spice trade had come into existence and heavy taxes had been imposed on spices. In India the art of gastronomy

which is based on the art of blending various flavours is transferred from one generation to another continuously since ages. Most of the spices used in Indian cookery are generally broiled before being used in a dish. There are several spices and those used in abundance include fennel pepper coriander Bishop's weed cinnamon cassia, mace, nutmeg, coriander cumin, cloves.

The Indian cuisine is perhaps one of the few ones in the world where the use of spices is in abundance and the spices have a delightful association with almost every regional dish. Spices are used in every course bit, even in the welcome drinks like jaljeera or a snack preparation or a main course or a desert where it is spiced by green cardamom. In the Northern part of the country spices are generally dry roasted and ground before use. Special mixtures such as Garam Masala are used for seasoning the dishes in the southern part spices at ground with coconut or fresh herbs used as a seasoning along with tempering of mustard seeds curry leaves and dried Red Chillies. They are also used as preservatives and also carry medicinal qualities with the advent of Ayurveda in the ancient times the use of spices would have increased because of their therapeutic role in the food, as herbal remedies were generally prescribed by the doctors.

The scope of spices in the gastronomic spectrum of Indian cuisine is very broad as they not only complement the flavour texture Aroma as well as also enhance the therapeutic role of the food there incorporation in the in the diet should be wisely done so that it may help in increasing the appetite and stimulate digestion.

Spices have the following major functions:

- It acts as a preservative
- It enhances the flavour
- Serves as a thickening agent in the preparation of curry
- Contributes in improving the overall appearance of the dish
- Acts as a stimuli to the digestive system
- It improves the flavour and palatability of the dish
- It improves appearance and cosmetic value of the dish by imparting colour
- It has a therapeutic role

2.2 OBJECTIVES

After reading this unit the learner will be know:

- About Condiments and its uses in Indian kitchen
- About Herbs and its uses in Indian kitchen
- About Spices and its uses in Indian kitchen
- Storage of spices

2.3 CONDIMENTS, HERBS AND SPICES USED IN INDIAN CUISINE

Importance of Herbs and spices: Spices have the following functions:

- **Aphrodisiac:** Since the early times romances have always been catalysed by sensory support of the luxurious aromas and perfumes, sensual aromatic cream

massages that are majorly obtained from the herbs and spices. The essential oils and the oil or alcoholic base of the perfumes imparts these magical aromas, that arouse the smell and taste buds and the tactile sensation. Spices like asafoetida , musk and castoreum when used in moderate quantities can result in an erotic smell with a salty , animalistic and sensual tinge. Cardamom and cloves have since ages been regarded as breath enhancers and used to treat bad breath because of their aromatic and therapeutic qualities. Cloves also contain eugenol which is also considered as a sexual desire enhancer. Nutmeg and mace are also considered natural aphrodisiac agents. Pepper has piperine which is also considered as a stimulant for the sexual functions.

- **Curative Qualities:** The spices have their own curating qualities. While ginger is responsible for healing dyspepsia, garlic reduces cholesterol , fenugreek builds resistance whereas pepper acts as an antihistaminic the turmeric enhances the skin glow acts as a stimulant for healing stomach ulcers and is a natural antibiotic. Eugenol found in cinnamon and cloves acts as a natural anaesthetic. Cinnamon , cumin, capsicum, peppers, mace etc have antibacterial and anti microbial qualities.
- **Preservation of foods:** Spices were used in the earlier times as a shelf life enhancer when the refrigeration was absent. Salt has been used since ages as a curing agent and is a base ingredient for the preparation of brines.. Turmeric , cloves , mustard, ginger, garlic and asafoetida are all considered as preservatives. Pickling is also one of the common methods of preservation where all the spices are blended with mustard oil to preserve a food.
- **Thickening Agent :** Thickening agents give body and consistency to the food they also enhance the nutritional value of the food they are used in. Foods like coconut, Coriander powder, poppy seed paste, cashewnut paste, magaz paste etc are widely regarded as thickening agents from the perspective of Indian cuisine.

Spice wise production in various states of India is listed in table below:

SN.	Name of Spices	Producing States of India
1	Ajwain	Bihar, Jammu and Kashmir,
2	All Spice	Uttar Pradesh, Hyderabad
3	Aniseed	Punjab, Assam, Uttar Pradesh, Uttarakhand
4	Basil	Uttar Pradesh, Madhya Pradesh, Bihar
5	Bayleaf	Arunachal Pradesh and Sikkim
6	Cambodge	Kerala, Karnataka
7	Caraway	Kashmir, Himanchal Pradesh, Uttarakhand
8	Cardamom(Large)	Sikkim, West Bengal
9	Cardamom(Small)	Karnataka, Kerala, Tamilnadu
10	Cassia	Kerala
11	Celery	Punjab, Uttarpradesh
12	Chilli	Rajasthan, Odisha, Andhra Pradesh, Gujrat, Karnataka, Maharashtra, Tamilnadu, Uttarpradesh, West Bengal, Madhya Pradesh, Uttarakhand

13	Cinnamon	Kerala, Karnataka, Tamilnadu
14	Clove	Kerala, Karnataka, Tamilnadu
15	Coriander	Rajasthan, Uttarpradesh, Uttarakhand
16	Cumin	Gujrat, Rajasthan, Uttar Pradesh
17	Dill	Gujrat, Rajasthan,
18	Fennel	Uttar Pradesh, Rajasthan, Gujrat
19	Fenugreek	Gujrat, Uttar Pradesh, Punjab, Bihar
20	Garlic	Gujrat, Uttar Pradesh, Punjab, Himanchal Pradesh, Kashmir, Haryana, Madhya Pradesh, Maharashtra, Kerala, Assam, Bihar, Meghalaya, Karnataka
21	Ginger	Gujrat, Uttar Pradesh, Punjab, Himanchal Pradesh, Kashmir, Maharashtra, Tamilnadu, West Bengal, Andhra Pradesh, Karnataka, Kerala, Madhya Pradesh, Meghalaya, Tripura, Arunachal Pradesh
22	Kokum	Karnataka, Andhra Pradesh, Tamilnadu
23	Mace	Kerala, Karnataka, Tamilnadu
24	Mustard seeds	Uttar Pradesh, Bihar, Andhra Pradesh
25	Nutmeg	Kerala, Karnataka, Tamilnadu
26	Pomegranate Seed	Maharashtra, Madhya Pradesh, Uttarpradesh
27	Pepper	Kerala, Karnataka, Tamilnadu
28	Saffron	Jammu and Kashmir
29	Turmeric	Tamilnadu, West Bengal, Bihar, Uttar pradesh, Karnataka , Andhra Pradesh, Odisha, Maharashtra, Kerala, Assam, Meghalaya, Tripura, Arunachal Pradesh
30	Vanilla	Kerala, Karnataka, Tamilnadu

Spices and their Various Sources from parts of Plants

Part of Plant	Name of Spices
Aril	Mace
Barks	Cinnamon
Berries	Black pepper, All spice
Buds	Cloves, Cassia Buds,
Flowers	Cayene Pepper
Kernels	Nutmeg
Latex	Asafoetida
Leaves	Bayleaf, Curry Leaf, Coriander Leaf, Basil, Thyme, Parsley, Oregano
Roots	Turmeric
Seeds	Aniseed, Caraway seeds, Coriander, Cumin, Mustard, Nigella
Stigmas	Saffron

Hindi Nomenclature of Popular Spices

Name of Spices	Name of Spices in Hindi
All Spice	Kebab chini

Aniseed	Sauf
Asafoetida	Heeng
Basil	Tulsi
Black cardamom	Badi Elaichi
Black Peppercorn	Kali Mirch
Bayleaf	Tej Patta
Cambodge (Tamarind)	Imli
Caraway Seeds	Syah Jeera
Cinnamon	Dalchini
Curry Leaf	Curry Patta
Fennel	Sauf
Fenugreek	Methi Dana
Green Cardamom	Choti Elaichi
Mace	Javitri
Mustard	Sarson
Nutmeg	Jaiphal
Nigella Seeds	Kalaunji
Saffron	Kesar, Zafran
Star Anise	Chakra Phool
Turmeric	Haldi

Indian Spices and their therapeutic Uses

Spice	Utilization	Benefits
Asafoetida	Used as a seasoning in vegetables, Snacks, Lentils, Curries	Effective in cough, Cold, Indigestion, Stomach che and Gas
Bayleaf	Used in Garam masala mix, in curries and gravies	Acts as a flavouring, antifungal, antimicrobial, anti bacterial agents. Primarily used to treat hypoglycaemia.
Cardamom	Used to aromatise and impart flavour to desserts as well as curries. Used in Pharmaceutical sector because of high therapeutic value	Used in treating mouth odours, aid in digestion and treatment of diabetes.
Chilli	Imparts Hot and Spicy Flavour to the food. Stimulates Taste Buds.	Rich in antioxidants, helps in maintaining good cholesterol levels. Is widely used to treat various joint pains, including rheumatic arthritis and spasms.
Cinnamon	Is widely used in south Indian as well as in north Indian masala blends. Is a sweet spice.	Aids in insulin generation and reduction of chlosterol levels. Oil has anti fungal, anti microbial and anti nausea properties.
Clove	Is a sweet spice , used extensively in Indian cuisine as a chief ingredient in	Clove oil is widely used in dentistry and is used for the treatment of pains, cough, cold

	major masala blends.	and acts as a stimulant. Aids in controlling diabetes.
Coriander	Is used in leaf as well as seed form. Coriander powder is a main ingredient in masala blends.	Has aromatic as well as therapeutic qualities. Used in treatment of joint pains, sore throat, allergies, digestive troubles, pyrexia, abdominal disorders and nausea.
Cumin	Widely used in tempering and in masala blends.	Helps in strengthening the metabolism, used as a stimulant, aids in abdominal disorders.
Curry leaf	Widely used as a tempering ingredient in the south Indian cuisine	Oil acts a stimulant, curing flatulence and aids in the treatment of abdominal disorders. Helps check sugar levels. Oil is also used in perfumery.
Fennel	Used in seed form, dry fried or ground. Commonly used in Awadhi, Kashmiri and Bengali cuisines.	Has therapeutic qualities, used in perfumery as well. Aids in digestion.
Garlic	Used extensively in the entire major cuisines which have a moghlai influence.	Used in the treatment of rheumatic ailments, helps regulate blood pressure and as an excellent aphrodisiac. Also help in treating paralysis.
Ginger	Extensively used in kashmiri cuisine in dried form. Used extensively in almost all the Indian cuisines in the form of masala paste.	Helps in prevention of heart diseases, aids in digestion and cures cough and cold.
Mustard	Mustard oil is extensively used in Bengali and north Indian cuisines. Mustard paste is commonly used commonly in Bengali and Odiya cuisines. It is generally used in the seed form in the tempering. Black mustard is commonly used in south Indian tempering.	Oil is used for scalp and body message. Is rich in omega 3 and monosaturated fatty acids. Has rich amount of minerals like iron , mognese, zinc etc.
Nutmeg	Is a sweet spice, used in the masala blends. Has a peculiar strong aroma and a	Used for its simulative, carminative, astringent, narcotic and aphrodisiac properties. Used

	distinctive taste.	in the treatment of mouth odours, asthma, cardiovascular disorders.
Pepper	Used both in black and white forms. Used extensively as a seasoning in west. Used a constituent in masala blends.	Used extensively in pharmaceutical sector

Indian cuisine is incomplete without spices. Indian spice mixes are the spirit of cooking Indian curries and delicacies. They provide taste and fragrance to lentils, veg and non-veg stews, curries, and rice dishes.

Since ages India has been known as the land of spices. It was perhaps because of the famous 'spice route', that made India a preferred trade destination for the Portuguese, British, Persians and people from all over the globe, It would have not been invaded by the traders and the invaders so many times. Indian cuisine holds little meaning in the absence of the spices.

However, each state uses specific spices in its dishes, to an extent that it is virtually impossible to replicate what the other state has to offer.

The list of spices that are usually used in day to day cookery is as follows:

Carom Seeds/Bishops weed (Ajwain): It is a seed fruit and is also known as thymol seeds. They have an oval shape, greyish texture and a dominant flavour. They are mostly used to flavour savoury Indian dough, snacks and are best suited for fried dishes. It has a rich therapeutic value and is used frequently in treatment of stomach disorders as well as cold.

All spice (Kebabchini): It is a spice also commonly known as tailed pepper. The roots of this spice are from the Caribbean, however they are extensively cultivated in south Indian states like Maharashtra, Tamilnadu, Kerala and Karnataka. The dried berries of the fruit often resemble black peppercorns but usually have stalk attached to them. Its fragrance is a combination of nutmeg, cloves and cinnamon. They are most commonly used in western gastronomy and not frequently in the Indian gastronomy. All spice has a wide therapeutic use straight from anti bacterial, anti microbial, deodorant to anti oxidation. It is a common ingredient in south Indian masala blends, kebabs and curries of Hyderabad and the Cuisine of the Chettinad.

Aniseed (Moti Sauf): Aniseed belongs to the parsley family and originally belongs to the East Mediterranean region. It is popular for its pleasant aroma and peculiar taste. Some people in India also call it Sauf due to its close resemblance with the fennel seeds. In India its cultivation is very limited. It is also used frequently as a condiment.

Asafetida (Hing): It is the dried gum resin (gum oleoresin) of an East Indian plant. It is never consumed raw because of the completely pungent taste and odour. It is consumed only after it has been dried over a long period of time. Usually used in small quantities it imparts fragrance and flavor to the dishes. It is an essential ingredient used while

tempering the lentils and is commonly used while preparing fish, vegetables and pickles. It is produced primarily in Kashmir and in certain regions of Himanchal and Punjab. However the major

Turmeric (Haldi Powder) : Native to the tropical South Asia, its has been used in the Indian cookery since ages as a flavouring , colouring and antiseptic agent. When it is mixed with a little red chilli powder, it adds a distinct flavour and colour to the dishes. This powder is obtained by grinding turmeric root. Turmeric is well known as an antioxidant and cure for cough, cold and even cancer. In Bengal turmeric is used for marinating fish due to its antiseptic qualities.

Red Chili Powder (Lal Mirch Powder) : A native of the America, chillis have become so much a part of Indian households, that they are no more associated with the Latin American countries. Red chili powder holds its spiciness on the kind of red chili used. It used in various forms in the Indian cookery be it as whole in the tempering of lentils or coarsely ground in Kadhai Masala or as finely ground in the gravies, it isan essential part of flavouring process.

Coriander Powder (Dhaniya Powder) : Coriander is an twelve-monthly herb that is used extensively in Indian kitchen. Different parts of the coriander are edible but the fresh leaves and dried seeds are commonly used in cooking. Chopped coriander leaves are a garnished for cooked dishes while the dry coriander seeds are used whole or as ground form. Coriander roots are used in various soups as it has strong flavour.

Cumin Seeds (Jeera): Native to Syria, cumin seeds are used worldwide, but carries a distinct space of its own in the Indian gastronomy. A majority of Indian dishes start with a tempering of cumin seeds in heated oil. Its is also a common ingredient in the masala blens used in south Indian cuisine. Cumin seeds apart from adding flavour to the dishes, also carry therapeutic properties .

Mustard Seeds (Sarson) : From Reddish brown to black in appearance, these seeds are commonly used in Indian cooking They are widely consumed in the preparation of pickles, and other condiments, and sometimes even for flavouring the curries. The paste made from it has a very pungent taste.

Tamarind (Imli) : Tamarind has a bean like structure and is used mainly to add a sour taste to many Indian curries.

Dry Mango Powder (Aamchur): Mango powder adds a tanginess and a sour flavor to the dishes. It is made after slicing unripe mangoes, which have been left to dry in the sun for a long period of time, and then ground into fine powder. It is extensively used in Indian dishes like dips(Chutneys), pickles and masalas.It is also used in Indian chaats. Maango powder is also used as a marinating agent in meats.

Garlic and Ginger (Adrak aur Lehsun) : A combined paste of ginger and garlic adds a zing to all kinds of Indian dishes. Garlic and ginger are known for their anti oxidant properties and also used in various herbal preparations.

Fenugreek Seeds (Methi Seeds) : These small, flat, squarish, brownish-beige seeds are essential in curries, but because they have a slightly bitter flavor they must be used in the stated quantities. They are especially good in fish curries, where the whole seeds are gently filed at the start of cooking; they are also ground and added to curry powders; The green leaves are used in Indian cooking and, when spiced, the bitter taste is quite piquant and acceptable. The plant is easy to grow.

Fenugreek Seeds (Methi Seeds): Nutmeg or Jaiphal: It is usually used in its powdered form. Grated freshly, using the whole or half nutmeg with a very fine grater. Many times it is used in flavoring Indian sweets. But it may be used in savory dishes as it is used in the making of some Garam Masalas. It is recommended for insomnia, irritability and nervousness.

Sesame Seeds (Til) : Sesame seeds are used in many masalas or are used to flavor the recipe by giving a tadka” with the seeds. It is also used in some chutney.

Fresh Mint Leaves (Pudina) : Although there are many varieties, the common, round-leaved mint or peppermint leaf is the one most often used in cooking. It adds flavor to many curries, and mint chutney is a favorite accompaniment to kebabs and a great dipping sauce for snacks. Sold dried as well as fresh. They are important in curries. The tree is native to Asia, the leaves are small and very shiny, and though they keep their flavor well when dried they are found in such abundance in Asia that they are generally used fresh. The leaves are fried in oil, until crisp, at the start of preparing a curry.

Fennel Seeds (Saunf): These light green oval shaped seeds have been known to possess digestive qualities. In India, they are roasted, sometimes lightly coated with sugar and eaten after meals as a mouth freshener and to stimulate digestion. They are also recommended for nursing mothers, as they have been known to increase the milk supply. Used successfully in many curries and ‘indian pickles’. Today you will find sugar coated “green supari mixtures containing ‘saunf’ in Indian Grocery stores.

HINDI EQUIVALENTS OF SOME WELL KNOWN ENGLISH FOOD NAMES CONDIMENTS AND NUTS

Spices and Nuts	Name in Hindi
Almonds	Badam
Aniseed	Saunf
Arrowroot	Araroht
Asafoetida	Hing
Baking Powder	Pakane ka soda
Bay leaf : (or Cassia)	Tej patta
Black Pepper corns	Kali mirch
Basil	Goolal tulsi
Breadcrumbs	Sukhi double roti ka choora
Caraway seeds	Shahijeera
Cardamoms	Elaichi
Cashewnuts	Kaju
Cinnamon	Dalchini

Cloves	Laung
Cochineal	Gulabi rung
Coconut	Nariel
Coriander leaves	Hara dhaniya
Coriander seeds	Sukha dhaniya
Cumin	Jeera
Curry leaves	Meethi neem ke patte
Dry coconut	Copra
Dry ginger	Sonth
Fenugreek	Methi
Fennel	Hasha
Ginger	Adrak
Garlic	Lassan
Green chillies	Hari mirch
Groundnuts	Moongphalli
Jackfruit Seeds	Kathal Ke Beej
Jaggery	Gur
Lemon Rind	Nimbu Ka Chilka
Mace	Javitri
Marjoram	Ban tulsi
Mango Powder	Amchur
Mint leaves	Pudina
Mustard seeds	Sarson or rai
Melon seeds	Char Magaz
Nutmeg	Jaiphal
Onion seeds	Pyaz ke beej/ Kalaunji
Parsley	Ajmoda ka patta
Pistachio	Pista
Poppy seeds	Khuskhus
Raisins	Kishmish
Red chillies	Lal mirch
Saffron	Kesar
Sage	Seesti
Gingelly seed	Til
Sugar candy	Misri
Tamarind	Imli
Turmeric	Haldi
Tymol seeds	Ajwain
Thyme	Hasha
Vinegar	Sirka
FRUIT	
Apples	Seb
Apricots	Khubani
Banana	Kela
Fig	Anjeer
Grapes	Angoor
Guava	Amrud

Jackfruit	Kathal
Lemon	Meeta Nimbu
Lime	Nimbu
Mango	Aam
Olives	Zaitun
Orange	Narangi or Santra
Peaches	Arhu
Pears	Naspati
Pineapple	Ananas
Pomegranate	Anar
Sour apple	Khatte seb
VEGETABLES	
Beetroot	Chukandar
Bitter gourd	Karela
Brinjal (eggplant, aubergine)	Baingan
Beans	Sem
Cabbge	Band gobi
Capsicum	Bari mirch
Carrot	Gajar
Cauliflower	Phool gobi
Celery	Ajwain ka patta
Cucumber	Kakri
Colocasia leaf	Arvi ka patta
Drumstick	Saijan ki phalli
Elephant yam	Zamikand
Fenugreek leaves	Methi
French beans	Pharas bean (Fransi)
Fresh mint	Hara pudina
Green peas	Mattar
Ladies finger (okra)	Bhindi
Mushrooms	Kukar moote or Guchi
Onions	Pyaz
Potatoes	Alu
Pumpkin	Kaddu
Radish	Mooli
Ridge gourd	Turai
Snake gourd	Chirchira
Spinach	Palak
Spring onion	Hara pyaz
Sprouted beans	Phuli had chauli
Sweet potato	Shakarkand
Turnip	Shalgam
Tomato	Tamatar
White gourd	Lauki
Yam	Suran
LENTILS & CEREALS	
Barley	Jowar

2.4 VARIOUS WAYS OF USING SPICES, STORAGE AND USAGE TIPS

In India varied combination of spices are seen and the blending of these spices is generally done on the following basis of Grinding and usage:

On the Basis of Grinding

Non Ground or Whole: The masalas are used as whole and used in oil or water media. Generally used to infuse flavour in oil or water in which it is being cooked. eg. Khada Masala

Coarsely Ground: Certain masala blends are ground coarsely before they are used in any preparation. ie ground peppercorns, kadhai masala etc.

Fine Ground: There are certain masala blends which are fine ground in the powder form and are used for sprinkling over the dishes. eg. Garam masala powder.

Wet Ground: The masala are ground in the presence of water or vinegar and are used to form basic pastes, thicken gravies etc. eg. Chettinad masala.

Storage of Spices: The spices have played an important role in the development of Indian gastronomy. They are known for their distinct flavour and aromatic characteristics and storage plays an important role in preserving the quality of these spices. The storage condition of each and every spice is different as fresh herbs and spices have different storage requirements and wet ones have different ones. Light, humidity and temperature plays an important role in maintaining the keeping quality of these spices.

High temperatures and light tend to evaporate the essential oils in the spices which leads to degradation in flavour and aromatic qualities where as the humidity can tend to the development of moulds on these spices. Ground spices tend to loose their strength early as compared to the whole ones, therefore ground ones should be stored in airtight containers and that too in moderate quantities.

The spices should be stored generally at a temperature of around 70° F. They should be stored in airtight containers away from heat or sunlight. A good storage system is necessary for preserving the colour, aroma and the quality of the spices. Whole spices such as black peppercorns, caraway seeds, nutmeg , mace etc can be kept under ideal storage temperature for a period of upto four years, whereas the case of leaves the essential oils present in these type of spices is has a lower shelf life and therefore it is advised that they should not be stored beyond a period of two years.

Guidelines for the cooking of Spices: Spices have a tendency to burn easily; it is therefore advised that all the ingredients should be kept ready before hand. Each and every spice has its own colour aroma, flavour and texture and it is imperative to keep necessary precautions beforehand, while cooking as a minute delay of even a few seconds might result in the loss of nutrients and flavour and aroma. It is significant from the perspective of the Indian cookery where the spuces are added in quick succession and the cook often doesn't get the opportunity to look for them in middle of the cooking process.

and cloves acts as a natural anaesthetic. Cinnamon , cumin, capsicul, peppers, mace etc have antibacterial and anti microbial qualities.

Fine Ground: There are certain masala blends which are fine ground in the powder form and are used for sprinkling over the dishes. eg. Garam masala powder.

Non Ground or Whole: The masalas are used as whole and used in oil or water media. Generally used to infuse flavour in oil or water in which it is being cooked. eg. Khada Masala

Preservation of foods: Spices were used in the earlier times as a shelf life enhancer when the refrigeration was absent. Salt has been used since ages as a curing agent and is a base ingredient for the preparation of brines.. Turmeric , cloves , mustard, ginger, garlic and asafoetida are all considered as preservatives. Pickling is also one of the common methods of preservation where all the spices are blended with mustard oil to preserve a food.

Thickening Agent : Thickening agents give body and consistency to the food . they also enhance the nutritional value of the food they are used in. . Foods like coconut, Coriander powder, poppy seed paste, cashewnut paste, magaz paste etc are widely regarded as thickening agents from the perspective of Indian cuisine.

Wet Ground: The masala are ground in the presence of water or vinegar and are used to form basic pastes, thicken gravies etc. eg. Chettinad masala.

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2.9 TERMINAL QUESTIONS

- 1) What are herbs and spices? Discuss the Importance of spices in gastronomy.
- 2) Discuss the importance of correct storage conditions in context of Spices.

UNIT: 03

MASALAS, PASTES AND GRAVIES IN INDIAN COOKING

Structure

- 3.1 Introduction
- 3.2 Objectives
- 3.3 Masala
 - 3.3.1 Blending Spices
 - 3.3.2 Various Masala Mixes
 - 3.3.3 Other Popular Spice Blends
- 3.4 Pastes
- 3.5 Gravies
- 3.6 Summary
- 3.7 Glossary
- 3.8 References
- 3.9 Bibliography
- 3.10 Terminal Questions

3.1 INTRODUCTION

Masalas have played a vital role in the development of Indian gastronomy. The spices are an integral part of the cuisine, and it is beyond imagination to think about the Indian gastronomy without the presence of spices. They are essentially dried parts of plants ie flowers, leaves, bark, roots etc that have their own significant qualities that are mentioned in chapter two.

3.2 OBJECTIVES

After reading this unit the learner will be able to:

- Understand various masala used in Indian cooking
- Understand various pastes used in Indian cooking
- Understand various Gravies used in Indian cooking

3.3 MASALA

Masalas may be categorised into hot and cold spices and therefore their use in the most intrinsic manner results in symptoms masala blends like the hot spices and cold spice or sweet spice mix which are also known as garam and thanda masala or khushbu ka masala in the native language respectively. The spices may be categorised on the basis of their form on a plant like Leaves, Bark, Roots, Buds and flowers. For example it is the same tree who gives leaf as bay leaf, bark as Cinnamon, Bud as Mace and fruit as Nutmeg.

Masala blends that have been covered here in this unit include the most popular spice mixtures that form the back bone of the Indian gastronomy. These blends have obtained

their names on the basis of their nature, on the basis of the dishes in which they are used and on the basis of the place of their origin as well.

3.3.1 Blending of Spices

India is a large country full of diversity. The food has always played a distinct role in the cultural development and the preservation of heritage. Here it is believed that the food is so diverse that food tasted different after every few kilometres. It is perhaps true as the spice blends used here are diverse. Due to the geographical complexity the spices possess their distinct flavour and aroma based on their production and cultivation. The blending of spices requires a keen understanding of the flavours, nature of the spices and characteristic feature of each and every spice. The spices are responsible for developing particular taste in each and every dish, through out in all the regional cuisines.

Each spice has its own distinctiveness and individuality of its own possessing a peculiar taste, aroma and distinct flavour. Therefore it is imperative that the combining of the spices should be done with outmost care. The spices are treated and processed in various ways before blending. They can be broiled, fried in oil, boiled in water or simply be crushed. It can both be ground into powdered form or into a paste according to the need.

3.3.2 Various Masala Mixes

Some of the popular spice mixes used in Indian cuisines is as follows:

- Garam Masala
- Chaat Masala Powder
- Tandoori Masala
- Madaras Curry Powder
- Punjabi Garam Masala
- Sambar Powder 01
- Goda Masala
- Panch Phoran
- Basic Garam Masala (North India)
- Chaat Masala (Delhi Style)
- Punjabi Garam Masala 01
- Pav Bhaji Masala (Goan Style)
- Punjabi Chole Masala
- Biryani Masala (Hyderabad)
- Sambhar Masala 02
- Salan Ka Masala
- Molagapodi (Spicy Gunpowder)
- Rasam Powder
- Pani Puri Masala
- Dabeli Masala
- Peri Peri Masala

GARAM MASALA: Warm spice blend**Ingredients**

Cardamom seeds	30 gms
Cinnamon	15 gms
Whole cumin seeds	15 gms
Black peppercorns	15 gms
Fennel seeds	5 gms
Cloves	10 gms
Bay leaf	10 gms
Mace	5 gms
Big cardamom	5 gms

Method:

- Grind together all the ingredients to a fine powder.
- Store in airtight jar away from sunlight and heat.

CHAAT MASALA POWDER: A common spice powder with a spicy and savoury taste that is sprinkled over snacks and chaat.

Ingredients

Roasted whole cumin seeds	10 gms
Dried pomegranate seeds	5 gms
Black peppercorns	2.5 gms
Mango powder	15 gms
Salt	5 gms
Black salt	30 gms

Method:

- Grind together all the ingredients to a fine powder.
- Store in airtight jar away from sunlight and heat.

TANDOORI MASALA: A popular spice mix which is used to flavour ingredients which are cooked in a hot clay oven, often served as snacks.

Ingredients

Black peppercorns	15 gms
Cloves	5 gms
Black cardamom pods	2.5 gms/ 2 no
Paprika/ Red Chilli Pwd	5 gms
Cinnamon	5 gms
Green Cardamom	50 gms
Mace	20 gms
Nutmeg	¼ piece
Ginger	50 gms
Garlic	50 gms

Method:

- Preheat all the Masalas except ginger and garlic in a small skillet over medium-high heat.
- Toss skillet every few seconds for about 1 minute, until fragrant.

- Remove from the heat and let spices cool down.
- Next grind to a fine powder along with ginger and garlic.

MADARAS CURRY POWDER: A popular curry mix from Chennai which is famous across south India for its spicy taste and pungency.

Ingredients

Coriander seeds	15 gms
Cumin seeds	10 gms
Black or yellow mustard seeds	5 gms
Black peppercorns	2.5 gms
Cloves	2.5 gms
Fenugreek seeds	2.5 gms
Dried Red Chillies	5 – 7 pieces
Turmeric powder	5 gms

Method:

- Place all the ingredients in a grinder .Stir in the turmeric Store the blend in tightly sealed container.

PUNJABI GARAM MASALA: A hot spice mix from the North India which is used to flavour the punjabi gravies and curries. They are also an essential part of the marinades.

Ingredients

Coriander seeds	30 gms
Cumin seeds	10 gms
Black peppercorns	2.5 gms
whole cloves	1 tsp
Ccardamom seeds (from black pods)	2.5 gms
Cinnamon stick	10 gms
Bay leaf	5 gms

Method:

- Preheat a small skillet over medium-high heat. Toss well.
- Immediately transfer the nutty smelling spices to plate to cool.
- Once they are cool enough, place in a spice grinder and grind until fine.

SAMBAR POWDER 01: A popular spice blend from South India which is used to flavour sambhar.

Ingredients

Coriander seeds	50 gms
Cumin	15 gms
Split yellow chick peas	15 gms
Mustard seeds	10 gms
Fenugreek seeds	7.5 gms
Dry red chillies	5 – 7 no
Asafetida	2.5 gms
Peppercorns	5 gms
Curry leaves	Few/ 5-6 No.

Method:

- Roast all ingredients together over low flame, until fragrant.
- Cool the spices and grind to a fine powder in a small grinder.

- Store in an air tight container.

GODA MASALA: A popular spice blend from Maharashtra originating from the Konkan region.

Ingredients

Coriander seeds	500 gms
Cumin seeds	125 gms
Cinnamon Stick	20 gms
Whole Black Pepper Corns	15 gms
Cloves	10 gms
Bay leaves (tej patta)	10 gms
Stone Flower	10 gms
Nagkesar/cassia buds	10 no
Caraway seeds (Shahi jeera)	10 gms
Asafoetida (hing)	10 gms
Turmeric	20 gms
Fenugreek Leaves (Methi)	10 gms
Oil	50 ml

Mix all the ingredients together and Saute in little oil until light golden.

Sesame seeds	100 gms
Dessicated Coconut Powder	125 gms
Poppy seeds	10 gms
(To be broiled together until fragrant)	

Other ingredients

Red chilli powder	125 grams
Salt	3-4 tablespoons
Cooking oil	75 ml

Method:

- Heat a griddle; Broil the ingredients over a slow flame until fragrant.
- Remove and place aside to cool. Grind well in a grinder.
- Heat oil in a pan, Add the ingredients and sauté. Remove off the flame, cool and grind.
- Add in the chilli powder and salt and mix well.

PANCH PHORAN: A popular spice blend from Bengali cuisine which is used both whole and ground to temper and flavour gravies.

Ingredients:

Cumin seeds	50 grams
Radhuni seeds/ Yellow Mustard	50 grams
Aniseed (Moti Saunf)	50 grams
Onion Nigella Seeds (Kalonji)	50 grams
Fenugreek Seeds (Methi)	25 grams

Method:

- Broil all the Panch Phoran ingredients until fragrant. Remove off the flame and cool.

- Grind to a fine powder.

BASIC GARAM MASALA (NORTH INDIA): A hot spice mix from the North India which is used to flavour the north India gravies and curries. They are generally sprinkled over prepared dishes to enhance aroma and flavour..

Ingredients

- 300 gms cumin seeds (jeera)
- 100 gms coriander (dhania) seeds
- 100 gms black cardamom
- 50 gms black peppercorns
- 75 gms green cardamoms
- 20 gms cinnamon sticks
- 75 gms cup cloves
- 30 gms mace
- 20 gms bay leaves
- 2 nutmegs

Method

- Mix all the ingredients and broil them lightly over a griddle
- Let them cool and then blend in a mixer until it turns into a fine powder.
- Cool and then store in an air-tight container.

CHAAT MASALA (DELHI STYLE): A common spice powder with a spicy and savoury taste that is sprinkled over snacks and chaat to enhance tang.

Ingredients

- 100 gms roasted coriander seeds
- 50 gms dry Kashmiri red chillies, roasted
- 200 gms roasted cumin seeds
- 1 cup dried mango powder
- 3 tbsp black peppercorns
- 1 cup salt
- 3 tbsp black salt

Method

- Mix all the ingredients and grind them together in a grinder.
- Store well in an air-tight container.

PUNJABI GARAM MASALA 01: A hot spice mix from the north india which is used to flavour the punjabi gravies and curries. They are also an essential part of the marinades.

Ingredients

- 100 gms cumin seeds
- 100 gms cardamoms
- 50 gms black peppercorns
- 25 gms coriander seeds
- 30 gms fennel seeds
- 10 gms cloves
- 10 gms cinnamon sticks

- 10 gms bay leaves
- 20 gms caraway seeds
- 1 No nutmeg
- 5 gms dried ginger

Method

- Combine all the ingredients, except the dry ginger, and broil in a broad non-stick pan over a medium flame for 2 to 3 minutes, keep stirring continuously to avoid burning. Keep them aside to cool.
- Grind them together along with dry ginger in a mixer until it turns to a smooth, fine powder.
- Sieve the powder well and regrind leftover coarse powder. Store the fine ground powder in an air-tight container.

PAV BHAJI MASALA (GOAN STYLE): This is a masala blend which is used to flavour pavbhaji across goa and certain parts of konkan region in Maharashtra.

Ingredients

- 5 gms black cardamoms
- 30 gms coriander seeds
- 20 gms cumin
- 10 gms black peppercorns
- 15 gms tbsp fennel seeds
- Few dry chillies
- 1 stick of cinnamon
- 5 gms
- 10 gms dry mango powder

Method

- Clean the spices and ensure they are free from any impurities.
- Broil all the ingredients together, except the mango powder.
- Add the mango powder over the hot ingredients to release their aroma.
- Allow the ingredients to cool and then blend them together to a fine powder.
- Sieve the powder and regrind if required.
- Refrigerate in an air tight glass jar for up to 6 months.

PUNJABI CHOLE MASALA : A hot spice mix from the north india which is used to flavour the punjabi preprations like pindi chana.

Ingredients

- 10 gms Cumin seeds
- 10 gms Caraway seeds
- 5 No. dry red chillies
- 5 gms turmeric powder
- 10gms coriander seeds
- 5 gms black peppercorns
- 5 gms cloves
- 10 gms white sesame seeds
- 10 gms cardamoms
- 10 gms cardamoms
- 5 gms dry ginger (saunth) powder

- 10 gms dry mango powder
- 20 gms of cinnamon
- 5 gms Bayleaf
- 5 gms star anise
- 1/2 nutmeg
- 10 gms Black Salt

Method

- Dry roast all the ingredients one by one (except the spice powders) and allow them to cool.
- Once the ingredients have cooled, grind them to a smooth powder in the mixer.
- Sieve the powder, and store it in an air tight container.

Note:

- Roasting of spice powders like amchur, saunth, haldi, rock salt, etc is not required.
- Keep a lid handy when roasting the sesame seeds as they will start to pop.

BIRYANI MASALA (Hyderabadi): Biryani is a dish from the moghlai origin, mostly prepared in all the parts of the country, but the best ones are prepared in the state of Hyderabad. The word biryani was derived from Branj-Biriyan, literally meaning a distorted form of rice. The masala is infused in the rice through 'DUM' method of cooking.

Ingredients

- 1 bay leaf (tej patta)
- 1½ tsp fennel seeds (saunf)
- 2 star anise (chakri phool)
- 6 green cardamoms (elaichi)
- 2 black cardamoms (badi elaichi)
- 1 tsp black peppercorn (kalimirch)
- 5 cinnamon sticks (dalchini)
- 1 tbsp cloves (lavang)
- 4 tbsp coriander seeds (dhania)
- 2 tbsp caraway seeds (shahjeera)
- 1 mace flower (javantri) or strands from 1 flower
- 1/2 tsp grated nutmeg (jaiphal)
- 3 medium sized stone flowers (dagad phool)

Method

- Clean the spices and discard any stones and debris.
- On a low flame, broil each of the spices separately and cool them. Alternatively, they can be sun dried for a day or two till they become crisp.
- Blend them to a fine powder. Sieve and store in an airtight glass jar. Use 1 tsp per cup of rice when making biryani.

Note:

- Avoid adding the coarse powder that is left after sieving in the biryani as it will ruin the dish.
- Broiling the spices, or drying them in the sun, brings out the aroma of the spices and prevents the masala from going bad or getting inflicted with worms. This step

can be avoided only if you plan refrigerating the powder. The spices warm up while they are being blended.

SAMBHAR MASALA 02: Sambhar is a popular side dish from south india, generally eaten with breads, dumplings and rice.

Ingredients

- 6 - 8 whole dry Kashmiri red chillies, broken into pieces
- 1 tbsp coriander (dhania) seeds
- 1 tsp fenugreek (methi) seeds
- 1 tbsp toovar (arhar) dal
- 1 tbsp split Bengal gram (chana dal)
- 1 tbsp split black lentils (urad dal)
- 1 tsp turmeric powder (haldi)
- 1/2 tsp asafoetida (hing)
- 1 tsp oil

Method

- Heat the oil in a pan and roast all the ingredients in it. Let them cool completely.
- Blend them in a mixer to a fine paste using a little water.

SALAN KA MASALA: Salan is a popular dish having mughlai roots. The best salans in india come from Hyderabad where the principal ingredient is cooked in this masala based gravy.

Ingredients

- 18-20 large Green chillies
- 50 gms Salted peanuts
- 30 gms Sesame seeds (til)
- 15 gms Coriander seeds
- 5 gms Cumin seeds
- 6-8 No Dried red chillies
- 50 gms Onion grated
- 5 gms Turmeric powder
- 2 gms Cloves
- 5 gms Cinnamon
- 2 gms Mace
- 1 no Bayleaf
- 2 gm Big Cardamom
- 5gm Small Cardamom

Method:

- Broil all the ingredients except onion. Broil onion separately till all its moisture is lost and it gets caramelized.
- Grind well to a fine powder.

MOLAGAPODI (SPICY GUNPOWDER)**Ingredients**

- 2 cups Bengal gram (chana dal)
- 2 cups split black gram (urad dal)

- 100 g black sesame seeds (kala til)
- 1¼ cups dry coconut
- 20 curry leaves (kadi patta)
- 30 red chillies
- 1 lemon sized ball of tamarind (imli)
- 1½ tbsp jaggery (gur), powdered
- 3 tsp salt
- 2 tsp asafoetida (hing)

Method:

- Heat a heavy pan or wok. Broil the dals and dry coconut separately one by one till they turn pink.
- The tamarind, curry leaves, salt and asafoetida should also be broiled to avoid any moisture. These may be roasted together till the asafoetida starts emitting its characteristic aroma.
- Cool the roasted ingredients. Powder them in batches to a coarse consistency.
- After the ingredients have been crushed in batches, place the entire quantity in a large bowl and using a dry ladle, mix well to combine the flavours.
- Store in clean, airtight container.
- Molagapodi is served in small quantities mixed with sesame oil. Just use a little bit oil to bring the powder together.

RASAM POWDER: Rasam is a favourite accompaniment from South India served as a soup or an accompaniment.

Ingredients

- 75 gms coriander seeds (dhania)
- 20 red chillies (long variety)
- 25 gms cup toor (arhar) dal
- 25 gms cup Bengal gram (channa dal)
- 5 gms black peppercorns (kalimirch)
- 15 gms cumin seeds (jeera)
- 2 gms asafoetida (hing) powder
- 3 gms Turmeric powder

Method:

- Broil the red chilli, channa dal and toor dal on a medium flame until the dals are golden in colour.
- Transfer in a plate to cool and then broil the coriander seeds and pepper until fragrant. Add the cumin seeds at the end; Let all the ingredients cool completely.
- Grind them to a fine powder and store in an airtight container . It has a shelf life up to a month.

PANI PURI MASALA: Paani puri also known as pani ke batashe is a popular snack across the north india, where the fried semolina or wheat flower golgappas are stuffed with assortment of ingrediants like mashed potatoes, boiled and mashed chickpeas and tangy water flavoured using this masala.

Ingredients

- 25 g cumin seeds (jeera)

- 25 g coriander (dhania) seeds
- 25 g red chili powder
- 50 g dry mango powder (amchur)
- 10 g black pepper powder (kalimirch)
- Salt to taste
- 1 tsp black salt (sanchal)
- 1 pinch of asafoetida (hing)
- 1 tsp citric acid (lemon juice)

Method:

- Broil the cumin seeds and coriander seeds.
- Grind them to a powder and add all the other powders.
- Add asafoetida and store in an airtight container.

DABELI MASALA: Dabeli is a famous Mumbai street food also popular in Gujrat.

Ingredients

- 1 red chilli
- 1 tsp coriander seeds (dhania)
- 1 stick of cinnamon (dalchini)
- 2 cloves (lavang)
- 1/4 tsp cumin seeds (jeera)

Method

- Broil all the ingredients in a pan over slow flame for 2 to 3 minutes.
- Grind to a fine powder in a blender. Use as required.

PERI PERI MASALA: Although having roots from foreign soil, this masala is now popular in the street food sector.

Ingredients

- 2 tsp chilli powder
- 1 tsp dry red chilli flakes (paprika)
- 2 tsp garlic (lehsun) powder
- 2 tsp dried oregano
- 1 tsp black salt (sanchal)
- 1/4 tsp cinnamon (dalchini) powder
- 1/4 tsp cardamom (elaichi) powder
- 1/2 tsp powdered sugar
- 1/2 tsp ginger (adrak) powder
- Salt to taste

Method

- Combine all the ingredients in a deep bowl and mix well.
- Refrigerate in an air-tight container for up to a month.
- Sprinkle it on hot French fries or potato chips.

3.3.3 Other Popular Spice Blends

Some other popular spice mixes used in Indian cuisines are as under:

- Khada Masala
- Ver Masala
- Potli Ka Masala

- Lazzat E Taam
- Sambhaar Masala
- Bhojwar Masala
- Salan Ka Masala
- Kaala Masala
- Rasam Powder 1
- Rechado Masala
- Xacutti Masala
- Rechado Masala
- Chettinad Masala:
- Chai Masala
- Nawabi Garam Masala
- Madras Masala
- Mumbai Masala

Khada Masala: ‘Khada’ literally means whole. They are used in tempering, preparation of Gravies or may simply be boiled with rice. The basic purpose is to infuse the flavour of the spice in oil or water.

Ingredients: Bayleaf, Cumin, Mace, Cloves, Black Pepper, Cinnamon, Green Cardamom, Black Cardamom.

Ver Masala: This is a Kashmiri Masala Cake in which all the masala are ground and given round parry shapes, which are dried under a shade.

Ingredients: It has two variation one for the Kashmiri Brahmins cuisine and another for the Kashmiri Muslim cuisine.

For Kashmiri Brahmins/Hindus: Asafoetida, Cumin, Whole Coriander, Fenugreek Seeds, Red chillies, dried ginger, cloves, cardamom and turmeric.

For Kashmiri Muslims: Dried Garlic, Cumin, Whole Coriander, Fenugreek Seeds, Red chillies, dried ginger, cloves, cardamom and turmeric.

Potli Ka Masala: Originated in Hyderabad this masala blend is generally tied in a Muslin cloth in the form of a potli. The potli is used to infuse the flavours in the ingredients along with which it is boiled. It is removed afterwards.

Ingredients: Galangal / Beetle Root, dry rose petals, sandal wood powder, patther ke phool(stone flower/Chadila), kapur kachri, Coriander Seeds, Black cardamom, cinnamon.

Lazzat E Taam: Originated in Awadh, it is a proprietary masala. Used primarily as a flavour and aroma intensifier it is generally used in most of the Awadhi preparations along with vetiver water .

Ingredients: Small cardamom, Large cardamom, mace, cinnamon, Nutmeg, all spice, coriander seeds, black pepper, fox nut(makhana), fennel seeds, poppy seeds, star anise, vetiver,, caraway seeds, sandalwood, rose petals.

Sambhaar Masala: Is a common masala used in South Indian Cuisine. It is generally used in the preparation of Sambhar which is a preparation of lentils and . The ingredients are broiled together and then finely ground to a powder.

Ingredients: Coriander Seeds, Cumin, Whole Red chilli, Asafoetida, Fenugreek Seeds, Black Peppercorns, Desiccated Coconut, Turmeric, Urad Dal and Channa Dal, fresh curry leaves.

Bhojwar Masala: Originated in Hyderabad this masala blend is used primarily as a flavour and aroma intensifier, used in powdered form, the ingredients are broiled together and then finely ground to a powder.

Ingredients: Coriander Seeds, Cumin Seeds, Bay Leaves, Sesame Seeds, Dry Coconut, Groundnut, Stone flower

Salan Ka Masala: Primarily originated from Hyderabad this is a popular masala blend from the Hyderabadi cuisine . It is profoundly used in preparations of various types of Salans, Baghara Baingan etc. The masalas are broiled together and then ground to a fine paste.

Ingredients: Whole Coriander, cumin, Whole Red chilli, Poppy seeds, Groundnut, white Sesame seeds, Peppercorn, Mace, Cinnamon, cloves, Nutmeg, black cardamom, green cardamom, Desiccated Coconut

Kaala Masala: The literal meaning of ‘Kala’ is Black. This is a popular black masala from Maharashtra. It is prepared using spices which are dark in colour. The spices are broiled till they obtain a dark colour. They are then used in various popular maharashtrian dishes like masala bhat, varan, usal etc.

Ingredients: Cumin Seeds, coriander seeds, cloves, cinnamon sticks, Black sesame seeds, whole red chillies, Big Cardamom.

Rasam Powder 1: This is a popular masala originating from Udipi cuisine but is commonly used in the entire south Indian cuisine. All the ingredients except turmeric and asafoetida are broiled and then all of them are ground together. It imparts a peculiar flavour and aroma to the dish.

Ingredients: Coriander, cumin, black peppercorn, red chilli powder, black mustard seeds, fenugreek seeds, asafoetida, turmeric powder, curry leaves.

Rechado Masala: This is a popular masala used in Konkani and goan cuisine. It is commonly used in the preparation of seafood. In this masala the ingredients are ground together with vinegar.

Ingredients: Kashmiri Chillies, garlic, cloves, turmeric , cumin, mustard seeds, black pepper, tamarind, ginger, sugar and balsamic vinegar.

Xacutti Masala: This is a popular masala blend from Goa. All ingredients are broiled and ground together. They impart an excellent aroma and flavour to the dish in which they are added. The dish in which it is added also gets the 'Xacutti' name as a suffix. Eg. Galina Xacutti.

Ingredients: Dry red chilli, poppy seeds, Sesame seeds, Coriander seeds, cumin fenugreek seeds, mustard seeds, black peppercorns, aniseed, ajwain, green cardamom, black cardamom, cloves, cinnamon

Rechado Masala: This is a Konkani Masala preparation from the konkan region of Maharashtra. The masala blend is also widely used in certain parts of Goa. This masala blend imparts a bright red colour to the dish in which it is added. The ingredients are mixed with vinegar and then ground to a fine paste. One popular fish preparation using this masala is 'Prawn Rechado'.

Ingredients: Kashmiri chillies, Turmeric, cumin Seeds, Mustard seeds, black pepper corns, tamarind, Ginger, Sugar , Vinegar

Chettinad Masala: This is a popular masala blend from the chettinad cuisine. The masala are sauted and then wetground to form a thick paste. One of the most popular delicacy known as Chicken Chettinad uses this masala blend only.

Ingredients: Desiccated coconut, Red Chillies, coriander seeds, ginger, garlic, cinnamon, cardamom, cloves, stone flower, star anise, black peppercorns, roasted channa dal, curry leaves , turmeric powder.

Chai Masala: Chai is term given to 'tea' in Hindi. Therefore adding the word tea after chai is waste. Chai is the everywhere beverage that forms the basis of our communal gatherings in India. Chai is mostly brewed in milk, giving it the rich smooth taste. Frequently, chai is sweetened with cane sugar, making it a perfect associate to many Indian desserts. 'Chai' is rarely served during mealtime, but when it is brewed with spices like peppercorn, cardamom, ginger and cinnamon, it aids as a digestive agent. When served with hot savouries, chai gives a soothing relief.

Nawabi Garam Masala: Garam literally means warm in Hindi , as in the internal warmth generated by the body when it combines definite spices like clove, cinnamon, peppercorn and bay leaf. In Indian context, Garam Masala is known as a warm mix of spices that is prepared across all the regions of the nation. This adaptation toasts whole spices with patthar ke phool also known as chadilain regions of Uttarpradesh and when they are ground, the blend is amazingly complex. It is often used as a rub for meats and poultry or is simply used to flavour the kormas .

Madras Masala: Named after the famous city, (now known as Chennai), along the southern coastline, this mixture of roast spices and legumes (yellow split peas and bengal gram) is used to flavor mulligatwanny curries, curries which are often considered signature dish of Tamilnadu. The legumes are roast and grinded with conventional spices to produce a multifaceted blend of aromas, flavors and texture.

Mumbai Masala: Much like the active metropolis on the western coastline of India, this blend combines flavors obtained from red chillies, coconut and sesame seeds in one smooth, harmonious mixture. Anything gels well with this vibrant mixture, whenever it is sprinkled over any fish, chicken, vegetable or legume curry. This blend is aesthetic when spread over traditional Maharashtrian preparations.

The spice blends are named to represent different regions of India, followed by masala which means blend and is synonymous with Indian cooking in the Western world. Each cook weaves in his or her personal cooking style and regional ingredients, resulting in thousands of signature blends.

CHECK YOUR PROGRESS-I

1. Define masala? List the various blends of masala.

2. How we can prepare garam masala powder?

3.4 PASTE

According to Collins dictionary, ‘Paste is a soft smooth mixture made of crushed meat, fruit, or vegetables. For example tomato pastes, fish-paste, almond paste etc. Ingredients, method of preparation of some of the widely used pastes are discussed below:

- Ginger garlic paste

- Fried onion paste
- Vindaloo paste
- Curry Paste

GARLIC-GINGER PASTE**Ingredients**

Garlic cloves, halved	100 gms
Gingerroot, coarsely chopped	100 gms
Water	200 ml

Method:

- Place the garlic cloves, the gingerroot and water in a food processor grind to a paste.

FRIED ONION PASTE: A fried onion paste which imparts a peculiar caramel flavour and colour to the gravy. Commonly used in do piazza gravy.

Ingredients

Vegetable oil	To Fry
Onions (Cut in half lengthwise And thinly sliced)	750 Gms
Peppercorns	10 gms

Method:

- Preheat deep frying pan over medium heat. Pour in the vegetable oil.
- When the oil is hot enough, add the onions and fry, stirring occasionally, until they are caramel-brown with deep purple hue.
- Transfer the onions to plate to cool.
- Grind the peppercorns to fine powder. Pour 1 cup water into a blender jar.
- Add the caramelized onion and ground peppercorns and puree to make a smooth paste.

VINDALOO PASTE: A popular spice mix from Goa which is prepared over a grinding stone using spices and vinegar

Ingredients:

Red chillies	10 no.
Fresh ginger, finely grated	30 gms
Garlic (4 chopped and 8 thinly sliced)	12 cloves
Fenugreek seeds	3 gms
Mustard seeds	5 gms
White wine vinegar	50 ml
Oil	30 ml
onion, chopped	225 g
Tomatoes(peeled)	500 g
Cardamom seeds	5 gms

Method:

- Grind or pound the chilies, half of the ginger, chopped garlic, fenugreek, mustard and cumin, and blend them to a paste with vinegar. Do not add any water.
- Heat the oil and fry the onion until golden. Add the tomatoes and puree to a fine paste.

- Mix all ingredients and cook until the oil comes on top.

CURRY PASTE: This is a popular curry paste from the southern part of India, and is used in everyday cooking

Ingredients:

Coriander powder	25 gms
Cumin	15 gms
Fenugreek seeds	10 gms
Fennel seeds	15 gms
Curry leaves	10 gms
Dried red chilies	5 No.
Turmeric powder	10 gms
Chili powder	10 gms
White wine vinega	10 ml
Water	50 ml
Vegetable oil	100 ml

Method:

- Grind the fenugreek seeds, fennel seeds, curry leaves and dried red chilies finely, mix in the turmeric, chilli powder, coriander, cumin, vinegar and water to make a smooth paste.
- Heat the vegetable oil in a large skillet, add the paste and cook over low heat, stirring constantly until oil comes on top.

3.5 GRAVIES

Gravy may be considered as the soul of Indian cuisine. It is essentially a thick liquid of saucy consistency that gives body and flavor to the curries and other food preparation. It contributes to the five basic tastes – bitter, hot, sweet, sour, and salty. Indian gravies are as important to the indian food as the sauces in the nouvelle cuisine. While the sauces are generally poured over the food products, the gravy acts as a simmering liquid in which the fod and meat is cooked. It is a paste of masalas and other ingredients which has been fried (Bhunno) properly and then ground to a fine paste. Similar to a sauce they aid in flavour, texture, aroma and contribute to the characteristic qualities of the food.

WHITE GRAVY

Ingredients	Quantity
Cream	120 gms.
Mawa	75 gms.
Milk	200 ml.
Cashewnuts	75 gms.
White pepper powder	15 gms.
Sugar	20 gms
Onion	200 gms
ginger	10 gms
Garlic	10 gms
Nutmeg	¼ No
cinnamon	1" Stick

Cloves	6 No.
Cardamoms	6 No
Salt	to taste
Clarified Butter	50 ml.

Method:

- Peel and wash onions. Cut into quarters.
- Boil the onions in water until done. Cool and grind to a fine paste.
- Roast and grind the cinnamon, cardamom, nutmeg and cloves together finely.
- Scrape and peel Ginger and Garlic and grind to a fine paste.
- Wet grind all the remaining ingredients, except ghee, to a paste.
- Heat fat in a skillet, add Ginger and Garlic paste.
- Saute for a minute and add boiled onion paste. Add the Powdered spices and sauté.
- Add nut paste and fry further for 5-7 minutes stirring well.
- Add 2 cups water and simmer on low for 15 minutes.

YELLOW GRAVY

Ingredients	Quantity
Curd	200 ml
Oil	30 ml
Onions	150 gms
Ginger-garlic paste	30 gms
Turmeric powder	2 gms
Coriander powder	15 gms
Cumin powder	5 gms
Red chilli powder	5 gms
Salt	to taste

Method:

- Heat oil in a non-stick pan.
- Finely chop onions. Heat oil in a pan and sauté onions till brown. Add ginger-garlic paste, turmeric powder, coriander powder, cumin powder and red chilli powder and sauté for 10 minutes .
- Add curd, mix well and cook for 5-7 minutes. Add sufficient water and bring to boil. Adjust seasoning.

BROWN GRAVY

Ingredients	Quantity
Oil	30 ml
Onions	150 gms
Ginger-garlic paste	30 gms
Turmeric powder	2 gms
Coriander powder	15 gms
Cumin powder	5 gms
Tomato Puree	200 gms
Red chilli powder	5 gms
Salt	to taste

Method:

- Finely chop onions. Heat oil in a pan and sauté onions till brown. Add ginger-garlic paste, turmeric powder, coriander powder, cumin powder and red chilli powder and sauté for 10 minutes .
- Add curd, mix well and cook for 5-7 minutes. Add sufficient water and bring to boil. Adjust seasoning.

MAKHNI GRAVY (RED / TOMATO GRAVY)

Ingredients	Quantity
Tomatoes	12 large
Butter	1/4 cup
Salt	to taste
Kashmiri red chilli powder	1 tablespoon
Ginger roughly chopped	1 inch piece
Garlic paste	1 tablespoon
Ginger paste	1 tablespoon
Kasoori methi	1/2 teaspoon
Honey	2 tablespoons
Sweet Spices powder	1 teaspoon
Cashew nut	200 gms
Fresh cream	1 cup

Method:

- Cut tomatoes into quarters, boil with ½ of the kashmiri mirch. Drain and Puree.
- Grind cashew nuts to a fine paste. Heat butter in a pan, add garlic paste, ginger paste and two tablespoons of water. Cook for a while. Add the pureed tomatoes and cook for some time.
- Broil kasuri methi on a tawa. Crush. Add the remaining Kashmiri red chilli powder to the gravy along with salt, sugar or honey. Stir and cook for a minute.
- Add the crushed kasuri methi and sweet spices powder. Mix and cook for a while. Add cream.

POPULAR DERIVATIVE GRAVIES: Some of the popular derivative gravies are as under:

Spinach Gravy: Add Blanched Spinach puree to white Gravy to produce this one.

Lababdar Gravy: Add fried onion paste and mawa in good quantity to makhani gravy to produce this one.

Kadhai Gravy: Add kadhai masala to Makhani gravy along with chunks of onion and capsicum to produce this one.

Achari Gravy: Add panchphoran and raw mustard oil/ mirch ka achar to the brown gravy to produce this one

Malai Kofta Gravy: Add a little sugar and ZFresh cream to the white gravy to produce this one.

Korma Gravy: Add tried onion paste to yellow gravy to produce this one.

Yakhani Gravy: A stock and yoghurt based regional gravy prepared both in Kashmir and awadh.

CHECK YOUR PROGRESS-II

1. List the various Pastes used in Indian Kitchen.

2. Write a note on ‘Gravies’.

3.6 SUMMARY

India has conventionally been known as the territory of spices. It was famous all across the globe for its aromatic spices which truly led to its enlightening exchanges with other nations and therefore the country was invaded so many times by the foreign forces. These cultural interactions to a certain extent enriched the Indian cookery.

Spices are essentially fragrant, flavoursome substances obtained from the plant kingdom which are used to boost the flavour and fragrance of the recipes in which they are used. This unit has introduced an essential perceptible about the spices used in the Indian regional cuisine and the various sub essential cuisines. The Indian food arena is very wide and the insights shared here will help us in creating a basic understanding about the use of spices that are used in Indian cuisine. Having read this unit, you should be aware of the wide arena of Indian gastronomy and core understanding of the spice blends.

By reading this chapter you will obtain a clear cut understanding of the Condiments, Herbs and Spice mixtures used in Indian Cuisine. Masalas may be categorised into hot and cold spices and therefore their use in the most intrinsic manner results in symptoms masala blends like the hot spices and cold spice or sweet spice mix which are also known as garam and thanda masala or khushbu ka masala in the native language respectively.

The spices may be categorised on the basis of their form on a plant like Leaves, Bark, Roots, Buds and flowers. For example it is the same tree who gives leaf as bay leaf, bark as Cinnamon, Bud as Mace and fruit as Nutmeg.

Masala blends that have been covered here in this chapter include the most popular spice mixtures that form the back bone of the Indian gastronomy. These blends have obtained their names on the basis of their nature, on the basis of the dishes in which they are used and on the basis of the place of their origin as well.

Spices should be handled with outmost care while blending and storage conditions play a significant role in determining the shelf life of the product.

3.7 GLOSSARY

Achari Gravy: Add panchphoran and raw mustard oil/ mirch ka achar to the brown gravy to produce this one

Bhojwar Masala: Originated in Hyderabad this masala blend is used primarily as a flavour and aroma intensifier, used in powdered form, the ingredients are broiled together and then finely ground to a powder.

Chai Masala: when tea is brewed with spices like peppercorn, cardamom, ginger and cinnamon, it aids as a digestive agent. A blend of these spices is known as chai masala.

Chettinad Masala: This is a popular masala blend from the chettinad cuisine. The masala are sauted and then wetground to form a thick paste. One of the most popular delicacy known as Chicken Chettinad uses this masala blend only.

Kaala Masala: The literal meaning of 'Kala' is Black. This is a popular black masala from Maharashtra. It is prepared using spices which are dark in colour. The spices are broiled till they obtain a dark colour. They are then used in various popular maharashtrian dishes like masala bhat, varan, usal etc.

Kadhai Gravy: Add kadhai masala to Makhani gravy along with chunks of onion and capsicum to produce this one.

Khada Masala: 'Khada' literally means whole. They are used in tempering, preparation of Gravies or may simply be boiled with rice. The basic purpose is to infuse the flavour of the spice in oil or water.

Korma Gravy: Add fried onion paste to yellow gravy to produce this one.

Lababdar Gravy: Add fried onion paste and mawa in good quantity to makhani gravy to produce this one.

Lazzat E Taam: Originated in Awadh, it is a proprietary masala. Used primarily as a flavour and aroma intensifier it is generally used in most of the Awadhi preparations along with vetiver water .

Madras Masala: Named after the famous city, (now known as Chennai), along the southern coastline, this mixture of roast spices and legumes (yellow split peas and bengal gram) is used to flavor mulligatwanny curries, curries which are often considered signature dish of Tamilnadu. The legumes are roast and grinded with conventional spices to produce a multifaceted blend of aromas, flavors and texture.

Malai Kofta Gravy: Add a little sugar and ZFresh cream to the white gravy to produce this one.

Mumbai Masala: Much like the active metropolis on the western coastline of India, this blend combines flavors obtained from red chillies, coconut and sesame seeds in one smooth, harmonious mixture.

Potli Ka Masala: Originated in Hyderabad this masala blend is generally tied in a Muslin cloth in the form of a potli. The potli is used to infuse the flavours in the ingredients along with which it is boiled. It is removed afterwards.

Rasam Powder: This is a popular masala originating from Udipi cuisine but is commonly used in the entire south Indian cuisine. All the ingredients except turmeric and asafoetida are broiled and then all of them are ground together. It imparts a peculiar flavour and aroma to the dish.

Rechado Masala: This is a Konkani Masala preparation from the konkan region of Maharashtra. The masala blend is also widely used in certain parts of Goa. This masala blend imparts a bright red colour to the dish in which it is added. The ingredients are mixed with vinegar and then ground to a fine paste. One popular fish preparation using this masala is ‘Prawn Rechado’.

Rechado Masala: This is a popular masala used in Konkani and goan cuisine. It is commonly used in the preparation of seafood. In this masala the ingredients are ground together with vinegar.

Salan Ka Masala: Primarily originated from Hyderabad this is a popular masala blend from the Hyderabadi cuisine . It is profoundly used in preparations of various types of Salans, Baghara Baingan etc. The masalas are broiled together and then ground to a fine paste.

Sambhaar Masala: Is a common masala used in South Indian Cuisine. It is generally used in the preparation of Sambhar which is a preparation of lentils and . The ingredients are broiled together and then finely ground to a powder.

Spinach Gravy: Add Blanched Spinach puree to white Gravy to produce this one.

Ver Masala: This is a Kashmiri Masala Cake in which all the masala are ground and given round parry shapes, which are dried under a shade.

Xacutti Masala: This is a popular masala blend from Goa. All ingredients are broiled and ground together. They impart an excellent aroma and flavour to the dish in which they are added. The dish in which it is added also gets the ‘Xacutti’ name as a suffix. Eg. Galina Xacutti.

Yakhani Gravy: A stock and yoghurt based regional gravy prepared both in Kashmir and awadh.

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3.9 TERMINAL QUESTIONS

- 1) What is the importance of Indian herbs and spices? Discuss the role of spices in Indian gastronomy.
- 2) Discuss the importance masala blends in regional Indian Gastronomy.
- 3) Classify masalas on the basis of their regional use. Ie East, west, north and south.
- 4) What are the precautions you will take while blending the Masalas.

UNIT: 04

COMMODITIES AND THEIR USAGE IN INDIAN KITCHENS

Structure

- 4.1 Introduction
- 4.2 Objectives
- 4.3 Souring Agents
 - 4.3.1 Difference between Souring and Fermentation
 - 4.3.2 Common Souring Agents
- 4.4 Colouring Agents
 - 4.4.1 Purpose of Food Colouring
 - 4.4.2 Types of Colouring Agents
 - 4.4.2.1 Natural Food Colourings
 - 4.4.2.2 Artificial Colouring
- 4.5 Thickening Agents
 - 4.5.1 Various Thickening Agents
- 4.6 Tendering Agents
 - 4.6.1 Common Meat Tenderizers
 - 4.6.2 Qualities of a Good Marinade
 - 4.6.3 Guidelines before applying tenderizers
 - 4.6.4 Meat Tenderizing through mechanical means
- 4.7 Flavouring and Aromatic Agents
- 4.8 Summary
- 4.9 Glossary
- 4.10 References
- 4.11 Suggested Readings
- 4.12 Terminal Questions

4.1 INTRODUCTION

As the Indian cuisine has gained popularity, more and more people across the world have shown interest towards Indian food. Indian food around the world is famous because of the intricate use of spices and herbs. The exceptional success of Indian lies in these herbs spices and condiments. India is a country full of delicate flavours right from Kashmir to Kanyakumari. While the north Indian food is rich and tasty, the South Indian food is largely hot, tangy, and sour.

4.2 OBJECTIVES

After reading this unit the learner will be able to:

- Define Souring Agents
- Understand usages of souring agents

- Differentiate between souring and fermentation
- Understand usages Colouring Agents
- Understand usages Thickening Agents
- Understand usages Tendering Agents
- Understand usages Flavouring and Aromatic Agents
- Understand usages Spicing Agents in Indian Kitchens

4.3 SOURING AGENTS

Souring is essentially a food preparation technique that comprises of rendering exposure to an acidic substance to produce a physical and chemical change in the food. This acid can be added openly (eg vinegar, lemon juice, lime juice, etc.), or it can be created within the foodstuff itself by a bacteria such as Lactobacillus.

A souring agent is basically a fruit, herb or dairy product which may be used to modify the principal flavour of foods or to alleviate excessively sickly flavours or to ease the concentrated warmth of spicy element. Souring Agents are frequently used Indian gastronomy for a range of foods and curries, a variety of the distinctive Souring agents may include: fruits such as cocum, lemon, fresh lime, raw mango, tamarind and berries. In addition, tomatoes, vinegar and yogurt are also used as common Souring Agents.

Tomatoes of course an omnipresent ingredient in the modern Indian kitchen nowadays but the common gravies they go in are essentially the replacement of the traditional ones, which has more complex flavours. Conventionally, souring agents in India have a wide-. We observe a prevalence of yoghurt-based meat curries in Delhi and UP, it is apparently because of the cow belt factor as well as because of the influence of Mughalai gastronomic heritage. Likewise vinegar in Goa is used because of is Portuguese influence.

4.3.1 Difference between Souring and Fermentation

Souring characteristically occurs in minutes or hours, while pickling and fermentation takes a much longer time.

4.3.2 Common Souring Agents

Some of the common souring agents used in Indian cuisine are as follows:

- Tamarind
- Kokum
- Yogurt
- Kachampuli Vinegar
- Pomegranate Seeds
- Kachri Powder
- Amchoor

Tamarind: Tamarind is a tropical tree found in different parts of the world. It generates pods that are full of sweet-sour and thick paste-like a fruit pulp. Tamarind is a commonly

used souring agent used in Indian cuisine. Tamarind is also used because of its therapeutic qualities . It is used in the efficient cure of constipation, diarrhoea, peptic ulcers and fever. Tamarind is recognized to be rich in minerals, vitamins, amino acids etc.

Tamarind pulp is generally used in all sorts of dishes which include the much-loved sambhar which would drop its uniqueness without tamarind. Hot samosa or pakoras would be worthless unless savoured with the sweet and sour tamarind chutney that is made from tamarind pulp and jaggery.

Some common street food like chaat and the paani puri would lose its meaning without the astonishing tamarind flavoured water that is filled in the Gol Gappas /puris along with a potato/ dry pigeon pea (matar) filling. Papri chaat and all other chaats owe their triumph to the sweet and sour ginger powder and tamarind flavoured chutney

Kokum: A produce of the mangosteen family, Kokum is used as a popular souring agent in the coastline regions of southern india. Kokum adds an element of sourness to curries and lentils preparations. It is an important constituent of stimulating beverages. The fruit's exterior portion that has been properly sun dried is used as a popular souring agent in Assamese, Maharashtrian, Kannada, Assamese cuisines

Yogurt: Yogurt is prepared by the infusion of a live sour culture in the warm milk . As the yogurt sours, it starts to build up small droplets of water on the surface of the yogurt. High amount of water on the surface indicates increased intensity of the sour taste. It is usually used in both North as well as South Indian cuisine.

It is used both in raw and cooked forms . While in the south it flavours chutneys and pachadis in the north it flavours lassis, raita, buttermilk, dahi kadhi, kormas , and is also used as marinade for meat and tikkas.

It is also a popular ingredient in Chhat items like Dahi bhalla, dahi papdi etc . Yogurt is used to thicken the gravies. Souring agents play an important role in Indian regional cuisines Tomatoes of course are all pervasive in the Indian kitchen Kachri powder is one of the most fascinating souring agents

Kachampuli Vinegar: Kachampuli vinegar used for preparing the famous pandi curry in Coorg and is a regional feature brought as regards by the requirement to preserve fruit. The Kodampuli fruit is simply available in monsoon gathered in baskets and then left to split down into pulp and vinegar which can then be stored and then used in the succeeding months. This vinegar that imparts a distinct taste to the pork.

Pomegranate Seeds: Pomegranate seeds are commonly used to prepare foods like the Chloee. They are a common souring agent used in Indian cuisine.

Kachri Powder: This is asouring agents obtained from a type of wild berry grown in Rajasthan and few other parts of north India. Dried and powdered kachri acts both as a tenderiser for meat if used as a marinade as well as a souring agent for the curries

Amchoor: In north Indian states like Uttar Pradesh and Bihar, dried mango powder is the preferred souring agent used in vegetarian preparations, including the lentils. During the

summers small pieces of unripe, tart mangoes are cut and cooked along with arhar dal, or in vegetables. But when the season gets over, the seed is dried and ground to a fine powder, to be used later.

CHECK YOUR PROGRESS-I

1. Define souring agent?

2. List various souring agents used in Indian kitchen.

4.4 COLOURING AGENTS

A color additive is any dye, pigment or substance which when added or applied to a food, drug or cosmetic, or to the human body, is capable of imparting colour. Colour is added to food for one or more of the subsequent reasons:

1. To restore colour lost during processing
2. To boost colour already present
3. To reduce batch-to batch disparity
4. To colour otherwise uncoloured food

4.4.1 Purpose of Food Colouring

Food colouring has the following purposes:

- To make food more eye-catching, tempting, appetizing, and revealing
- Offset color loss due to exposure to light, air, temperature extremes, damp and storage surroundings
- Correct natural variation in colour
- Improve colors that arise naturally
- Provide color to colourless and "fun" foods
- Permit consumers to identify products upon seeing, like candy flavours or medicine dosages

4.4.2 Types of Colouring Agents

A colour is any material that is added to change formulation of colour of the main ingredients. One of the most obvious ways in the food industry is to influence the appearance of a product looks by the addition of colouring agents. These range from natural to artificial colours to washes that enhance browning.

Food colours may be divided into two main categories: artificial and natural. From a regulatory point of view, natural colours cannot be termed natural colours on a food label until and unless they are to be used to colour the identical product. For example, beet juice is actually a natural colour but only if it is used to colour beets. If it is used to colour cherry juice, then it is technically and legally it is deemed to be considered an artificially coloured product and the beet juice will be deemed to be a colour additive.

Food safety and standards authority of India is responsible for regulating all colour additives to ensure that foods containing colour additives are fit for human consumption, contain only permitted ingredients and are precisely labelled. Food and colour additives are strictly studied, regulated and monitored. Food regulations in India (FSSAI) require facts that each substance is harmless.

4.4.2.1 Natural Food Colourings

A number of natural food colours are being commercially created, partially due to customer concerns regarding synthetic colourings. Few of the popular ones include:

- Caramel colouring, made from caramelized sugar.
- Annatto, a reddish-orange material made from the seed of the Achiote.
- A green colour made from chlorella algae.
- Cochineal, a red dye obtained from the cochineal insect, *Dactylopius coccus*.
- Betanin extracted from beets.
- Turmeric to produce yellow colour
- Saffron to obtain yellowish and orangish tinge
- Elderberry
- The orange color of carrots and many other fruits and vegetables arises from carotenoids.

4.4.2.2 Artificial Colouring

Artificial colour comprise of water soluble synthetic dyes or the aluminum salts of these dyes, which are known as “Lakes.” These seven primary synthetic dyes and their salts are deemed acceptable by FSSAI for use in foods. unification the seven produces a wide spectrum of colour, including purple, black, brown, and variation of the primary colours. The colours given underneath are known as “Primary Colours”, when they are mixed to create other colours, those colours are then known as “Secondary Colours”.

- Brilliant Blue, E133 (Blue shade)
- Indigotine, E132 (Dark Blue shade)
- Fast Green, E143 (Bluish green shade)

- Allura Red AC, E129 (Red shade)
- Erythrosine, E127 (Pink shade)
- Tartrazine, E102 (Yellow shade)
- Sunset Yellow, E110 (Orange shade)

Colour additives are available for use in food as either “dyes” or “lakes”.

Dyes: Dyes suspend in water, but are non oil soluble. Dyes are manufactured as powders, granules, liquids or other in other special purpose forms. They are used in beverages, dehydrated mixes, baked commodities, confectionery, dairy produce, pet food and a variety of other products. Dyes exhibit colours when dissolved in the aqueous phase of a food product, though, their solubility may vary with temperature and often with the chemical composition of the solute

Lakes: They are the combination of dyes and unsolvable material. Lakes tint by diffusion. Lakes are not oil soluble, but are oil dispersible. Lakes are more stable than dyes and are perfect for colouring products containing fats and oils or items deficient in moisture to dissolve dyes. Typical use of lakes includes coated tablets, cake and donut mixtures, hard candies and chewing gum. The Lakes are unsolvable in most solvents and instead emit colour by dispersion. They are used in small moisture, often high-fat applications, but are not fat soluble. They may bleed colour to some extent in water, but in most applications they minimize colour bleed into adjoining surfaces. The shades produced depend entirely upon the means of production and to some extent on element size. Lakes are more resistant than dyes to disappearing when exposed to high heat and light. Dyes go into solution and function on a molecular level. Lakes are different because the particles are disseminated. Particle size, particle outline and how well the particles are diffused in the finished product all manipulate the outcome. In some cases, simply increasing the shear at some point in dispersion may intensify the colour.

4.5 THICKENING AGENTS

Food thickening agents are frequently based on either polysaccharides (starches, vegetable gums, and pectin), or proteins. The tasteless powder of starch generally used for this purpose is a fecula This category comprises of starches such as arrowroot, cornstarch, katakuri starch, potato starch, sago, tapioca and their starch derivative. Vegetable gums used as food thickening agents include alginin, guar gum, locust bean gum, and xanthan gum. Protein used as food thickening agents include collagen, egg whites, and gelatin. Sugar polymers consist of agar, carboxymethyl cellulose, pectin and carrageenan. Other thickening agents that act on the proteins which is already present in a food include sodium pyrophosphate.

Different thickening agents may be more or less suitable in a given application, due to their differences in flavour, appearance, and their reaction to chemical and physical conditions. Eg. For acidic foods, arrowroot is a superior choice than cornstarch, which loses thickening ability in acidic mixtures. If the food is to be frozen, tapioca or arrowroot are a preferred choice over cornstarch, which becomes spongy when frozen.

The thickening of Soups can also be done by adding grated starchy vegetables prior to cooking, though they have their own flavour. Tomato puree also acts as a thickening agent as well as flavour intensifier. Egg yolks are a traditional sauce thickener in specialized gastronomy; they have rich taste and offer a velvety silky texture but also help in achieving the desired thickening effect only in a narrow temperature range. Other thickening agents used by chefs are nuts or glazes made of meat or fish.

Various thickening agents need extra care in cooking. Some starches lose their thickening value when cooked on a prolonged basis or at too high a temperature; on the other hand, cooking starches for too short intervals or not hot enough may lead to an disagreeable starchy taste or cause water to ooze out of the finished product after cooling. Also, higher thickness causes foods to burn more easily during cooking. As an substitute to adding more thickening agents, recipes may call for reduction of the food's water content through lengthy simmering. When cooking, it is usually better to add thickener carefully; if over-thickened, more water may be further added but loss of flavour and texture might result.

Cereal grains like oatmeal, couscous, farina, etc. Are generally used to thicken soups. Yogurt is in style in Eastern Europe and Middle East for thickening soups.

Thickeners may also develop the suspension of other ingredients or emulsions which increase the firmness of the product. Thickening agents are frequently regulated as food additives and as cosmetics and personal hygiene merchandise ingredients. Some thickening agents are gelling agents (gellants), forming a gel, dissolve in the liquid phase as a colloid mixture with the aim of forming a weakly cohesive internal structure. Others act as mechanical thixotropic additives with separate particles adhering or interlocking to defy strain.

Thickening agents can also be used to treat medical conditions such as dysphagia which cause difficulty in swallowing. Thickened liquids play a vital role in falling risk of aspiration for dysphagia patients. Thickening can be significant for people facing medical issues with chewing or swallowing, as foods with a thick consistency can help in reducing the chances of choking, or of inhalation of liquids or food particles, which can lead to aspiration pneumonia.

Generally the food ingredients that are used as thickening agents are usually added in the final stages of making of particular foods. These thickening agents have a flavour which are not noticeably stable, therefore are not suitable for general use. But since they are very convenient to obtain and effective to use, hence are widely used in the food industry.

The frequently used ingredients in a starch recipe involve the rate of gelatinization of the starch. Sugar, supplemented in a high ratio to the starch, inhibits the granular swelling. The starch gelatinization can not be concluded even after prolonged cooking at normal temperature. The result is a filling of thin consistency, dull colour, and a cereal taste. Other ingredients such as egg, fat, and dry milk solids have a alike result. Fruits with high acidity such as rhubarb also inhibit starch setting.

In cooking a filling, about 1.5 kg of sugar must be cooked with the water or juice for every 500 g of starch used as a thickening agent. More or less 100 g of starch is used to thicken 1 L of water or fruit juice. The higher the acidity of the fruit juice, the more thickener required to embrace the gel. Regular cornstarch thickens well but makes a cloudy solution. Another kind of cornstarch like waxy maize starch generally makes a more fluid mix of great clarity.

4.5.1 Various Thickening Agents

The generally used Thickening agents include the following:

- Cornstarch
- Pre-gelatinized Starches
- Arrowroot
- Agar-Agar
- Algin (Sodium Alginate)
- Carrageenan or Irish Moss
- Gelatin
- Gum Arabic or Acacia
- Gum Tragacanth
- Pectin
- Flours
- Gelling Agents
- Roux
- Onion Pastes
- Nut Pastes
- Seed Pastes
- Masala Pastes
- Lentils
- Dairy Products
- Vegetable Purees

Cornstarch: Cornstarch is the most frequent thickening agent used in the food industry. It is dissolved in water or juice and boiled to make fillings and to give a glossy semi-clear finish to commodities. Commercial cornstarch is made by drenched maize in water containing sulphur dioxide. The soaking softens the corn and the sulphur dioxide prevents probable fermentation. It is then compressed and passed to water tanks where the germ floats off. The mass is then ground fine and, still in a semi-fluid state, passed through silk screens to eliminate the skin particle. After filtration, the product, which is almost 100% starch, is dehydrated. Cornstarch in cold water is inexplicable, granular, and settles out if it is left standing. However, when cornstarch is cooked in water, the starch granules soak up water, swell, and rupture, forming a translucent thickened combination. This phenomenon is called gelatinization. Gelatinization frequently begins at about 60°C (140°F), reaching achievement at the boiling point.

Pre-gelatinized Starches: Pre-gelatinized starches are mixed with sugar and then added to the water or juice. They solidify the filling in the company of sugar and water without

heating. This is due to the starch being precooked and not requiring to be heated to enable it to absorb and gelatinize.

Arrowroot: Arrowroot is a extremely nutritious farinaceous starch gathered from the roots and tubers of various West Indian plants. It is used in the preparation of subtle soups, sauces, puddings, and custards.

Agar-Agar: Agar-agar is basically a jelly-like substance extracted from red seaweed which is found off the coasts of Japan, California, and Sri Lanka. It is available in strips or slabs and in powdered form. Agar-agar can only dissolve in hot water and is colourless. It is generally used in the ratio of 1% to make a firm gel. It has a melting point much higher than gelatin and its jelling strength is eight times greater. It is commonly used in pie fillings and to some extent to stiffen the jams. It is a permitted ingredient in some dairy products, including ice cream at 0.5%. One of its prime uses is in the production of supplies such as piping jelly and marshmallow.

Algin (Sodium Alginate): Extracted from kelp, this gum commonly dissolves in cold water and a 1% concentration it gives a firm gel. It has the disadvantage of not functioning well in the company of acidic fruits. It is popular in raw icings because it works well in the cold state and holds a lot of wetness. It reduces stickiness and prevents recrystallization.

Carrageenan or Irish Moss: Carrageenan is another type of marine gum obtained from red seaweed. It is used as a thickening agent in a variety of products, from icing stabilizers to whipping cream, at an allowable rate of 0.1% to 0.5%.

Gelatin: Gelatin is a glutinous substance made from the bones, connective tissues, and skins of animals. The calcium is separated and the remaining substance is soaked in cold water. Then it is heated to 40°C to 60°C (105°F to 140°F). The partly evaporated liquid is defatted and coagulated on glass plates and then set into moulds. When solid, the blocks of gelatin are sliced into thin layers and dried out on wire netting. Gelatin is available in the form of sheets of leaf gelatin, powders, granules, or flakes. Use it at a 1% ratio. Like some of the other gelling agents, acidity can adversely affect its gelling ability. The quality of gelatin frequently varies because of diverse methods of processing and manufacturing. For this reason, many bakers favour leaf gelatin because of its reliable strength.

Gum Arabic or Acacia: This gum is gathered from a variety of types of trees and is soluble in hot and cold water. Solutions of gum arabic are generally used in the bakery for glazing a variety of kinds of goods, mainly marzipan fruits.

Gum Tragacanth: This gum is obtained from numerous species of Astragalus, which are a kind of low-growing shrubs found in Western Asia. It can be bought in flakes or in powdered form. Gum tragacanth can be used to make gum paste and gum paste wedding ornaments, but due to the soaring labour costs and a high-priced price for the product, its use nowadays is uncommon.

Pectin: Pectin is a mucilaginous matter (gummy substance extracted from plants which is found naturally in pears, apples, quince, oranges, and other citrus fruits. It is used as the gelling agent in conventional jams and jellies.

Flours: The various types of flours are produced from various variety of cereals like (wheat, maize, rice etc.) which are exposed to specific heat treatments to be able to increase stability, consistency and general features. These functional flours are resistant to industrial exposures such as acidic pH, sterilisation, temperature. They are often used for thickening gravies and stews. Flours must be cooked thoroughly to avoid the raw taste.

Gelling Agents: Gelling agents are food additives used for the thickening and stabilizing of various foods, like jellies, desserts and candies. The agents provide the foods with texture in the course of formation of a gel. Some stabilizers and thickening agents also act as gelling agents. Usual gelling agents comprise of natural gums, starches, pectins, agar-agar and gelatin. Regularly they are based on polysaccharides or proteins.

Examples include:

- Alginic acid (E400), sodium alginate (E401), potassium alginate (E402), ammonium alginate (E403), calcium alginate (E404) - polysaccharides from brown algae
- Agar (E406, a polysaccharide obtained from red algae)
- Carrageenan (E407, a polysaccharide obtained from red seaweeds)
- Locust bean gum (E410, a natural gum polysaccharide from the seeds of the carob tree)
- Pectin (E440, a polysaccharide obtained from apple or citrus-fruit)
- Gelatin (E441, made by partial hydrolysis of animal collagen)
- Commercial jellies include the glucomannan polysaccharide gum used to make "lychee cups" from the konjac plants, and aiyu or ice jelly from the Ficus pumila climbing fig tree.

Roux: Roux is basically a mixture of flour and fat (usually butter) cooked together, is used for thickening gravies, sauces and stews.

Onion Pastes: Both fried onion paste and boiled onion paste assist to provide thickness to the gravies. They certainly help in adding base or body to the dish apart from acting as colouring agents too.

Nut Pastes: Various types of nuts ground into a fine paste are used in the thickening of Indian gravies. This is probably because of the influence of Mughal empire and hence, Mughlai kormas and curries which are often referred to as Royal Indian cuisine have a heavy use of nut pastes. There are many of the nut pastes, such as cashew nut, almond, and coconut. Apart from these, sometimes for special gravies, pistachio paste can also be used in order to thicken a gravy.

Seed Pastes: Many kinds of seeds are used in the ground paste form to provide thickening to curries and dishes. For example, poppy seed paste, chironjee paste, char magaz paste. A lot of other seeds such as sesame seeds are used in paste that also acts as

a thickener in gastronomy. Mustard seeds are also used in the form of paste that acts as thickening and flavouring agents for numerous Bengali dishes.

Masala Pastes: Many types of dry masalas and wet masala pastes are used in the thickening of the dishes in Indian gastronomy. Coriander powder, Turmeric powder and redchilli powders are the common ones.

Lentils: Many Indian preparations have the use lentils for thickening purposes. It is used in various forms around India. The major use is generally seen in south Indian cuisine like sambhar masala, curry powders like mulligatwanny mix etc.

Dairy Products: Such ingredients may include dairy products like such as cream, etc., which are used extensively in Indian cooking to thicken some gravies, Such use of dairy products is more prevalent in commercial establishments. Dairy products are also used in cooking of desserts and for thickening purposes .

Vegetable Purees: Some of the vegetable pastes, such as fresh turmeric, ginger, and garlic pastes, are as well used for thickening of curries. Some green leafy vegetable pastes, such as spinach, fenugreek, etc. are used in the thickening of curries and dishes.

CHECK YOUR PROGRESS-II

1. List the various colouring agents used in Indian kitchen.

2. List the various thickening agents used in Indian kitchen.

4.6 TENDERING AGENTS

A tenderizing agent is basically a substance which acts on the connective tissues and thus imparts tenderness to the meat. It also acts as a flavouring and aeromatic substance , thereby enhancing the keeping qualities as well as appearance of the final product.

Meat should NEVER be marinated in an acidic liquid like apple cider vinegar, wine, or lemon juice for more than six hours, since the acidity makes it tough. If the marination time needs to be increased for more flavours, the marinade should comprise of oil, rather than an acidic liquid.

Commercially produced meat tenderizing powders contain many unwanted food additives, like preservatives, salt, and Monosodium glutamate (MSG). Although the FSSAI has announced MSG as a 'Generally Recognized As Safe' substance, several impending side effects have been reported against it. Excessive consumption of MSG can cause headaches, swelling in the face/throat, tingling or flaming sensation in the face, neck, or other areas, facial tightness, rapid heartbeat, numbness, etc. Excessive ingestion of salt can lay foundation of heart attacks, strokes, and kidney diseases, hypertension, high blood pressure. Therefore, it is always advised to consume natural food products as meat tenderizing agents.

Natural fruit juices are as effective as a meat tenderizing powders. Enzymes and acids present in fruit pulps/juices aid in breaking down tough connective tissues. These can create the meat tender and juicy.

4.6.1 Common Meat Tenderizers

Some common meat tenderizers as under:

- Salt
- Tea
- Wine, Citrus Juices, Vinegar
- Tomato Based Sauces
- Beer
- Soft Drinks and Cola Beverages
- Ginger
- Coffee
- Buttermilk and Yogurt

Salt: Salt acts as a dehydrating and curing agent and has been used to improve the keeping quality of the food products since ages. Kosher or sea salt, is always better to use than the table salt, As the meat draws some of the salt backside in, the salt breaks down the protein present in the meat and improves the meat products texture.

Tea: It contains tannins which are a natural tenderizing agent. Tea liquor can always be used as an excellent marinade.

Wine, Citrus Juices, Vinegar: These are acidic fluids that have the ability to soften the muscle fibers and they also contribute to the flavour as well. For citrus juice lemon, lime or pineapple are the best choices. the type of vinegar can be apple cider, balsamic or regular household vinegar. Red wine is also a good option since it also contains tannins in good quantities.

Tomato Based Sauces: Tomatoes are acidic in nature and are amongst the most preferred ingredient for preparing barbecue sauces. Apart from flavour they also enhance

the colour of the sauces. Some sauces also include vinegar which helps increasing the acidity level.

Beer: Apart for the flavour, beer also include alpha acids and tannins and that is perhaps the reason why they act as a good workhorse when it comes to tenderizing meats. The meat should be marinated for at least an hour before grilling the meats.

Soft Drinks and Cola Beverages: The cola based beverages without the diet version act as a popular marinade. The best results are obtained after an exposure for a minimum of 30 minutes and up to 24 hours. The acid content present in the beverage acts as a tenderizer.

Ginger: Ginger contains a proteolytic enzyme that naturally breaks down protein and thus makes the meat tender.

Coffee: It is a natural tenderizer that also adds flavour and colour. To prepare marinade it must be brewed in a strong pot of coffee, chilled and then to be added as a marinade. The meat must be marinated for up to 24 hours before being grilling.

Buttermilk and Yogurt: These contain aciditic substances . The calcium content present in them activates enzymes within the meat that aid in the break down of protein.

Figs, Pineapple, Kiwis, Papaya: These contain vegetable enzymes that dissolve protein and connective tissues. For example Papaya contains papain. The enzyme acts on the connective tissues thus breaking them and resulting in a tender meat product.

4.6.2 Qualities of a Good Marinade

A good marinade should contain the following:

- An acid, an oil, herbs and spices for flavor.
- Acid is used for their ability to tenderize;
- Spices & Herbs are used for flavour;
- Oil is used to moisturize and carry flavor, it also seals the meat surface from the air, thereby retaining the fresh juices.

4.6.3 Guidelines before applying tenderizers

Guidelines before applying tenderizers is as under:

- When using a strong acid based marinade, glass dishes must be used as any metal might react to the acid and may spoil the meat.
- If marinating in a straight acid liquid (say apple cider vinegar, wine or lemon juice), meat should not be allowed to marinate for more than two hours as the acidity will then begin to toughen the tissues.
- If the marinating time is to be increased the proportion of oil substance in the marinade should also be increased.

4.6.4 Meat Tenderizing Through Mechanical Means

A meat tenderizer, meat mallet, or meat pounder is a hand-powered instrument used to tenderize slabs of meat in preparation for cooking. Although a meat tenderizer can be made out of almost any material, there are three types manufactured specifically for tenderizing meat.

- The most common, is an instrument that resembles a hammer or mallet made of metal or wood with a short handle and dual heads. One face of the instrument is usually flat while the other has rows of pyramid-shaped tenderizers.
- The second form bears a resemblance to a potato masher with a short handle and a large metal face that is also smooth or adorned with the same pyramid-shaped tenderizers as found in the first form.
- The third one is a blade tenderizer that has a series of blades or nails that are designed to puncture the meat and cut into the fibers of the muscle.

4.7 FLAVOURING AND AROMATIC AGENTS

Flavouring agents are a type of popular food additives with hundreds of varieties like fruit, nut, seafood, spice blends, vegetables and wine which are ordinary flavouring agents. Besides natural flavours there are also chemical flavours that replicate natural flavours. Some popular examples of chemical flavouring agents are alcohols that have a bitter and medicinal taste, esters have fruity tinge, ketones and pyrazines provide flavours to caramel, phenolics provide a smokey flavour and terpenoids give citrus or pine flavour.

According to Codex Alimentarius *“flavourings or flavouring substances are added to food to impart aroma or taste. Like other food additives their use should not present an unacceptable risk to human health and should not mislead consumers. The quantity added to foods should be at the lowest level necessary to achieve the intended flavouring effect. Flavours and flavouring substances should also be of appropriate food grade quality; and be prepared and handled in the same way as a food ingredient.”*

Flavours are used as supplements to enhance, modify the taste and the aroma in natural food products which might have got lost during food processing. Flavours are as well used to produce flavours in foods like candies and snacks that do not have agreeable flavours of their own.

It is the sensory impression of food or other substances, and is determined primarily by the chemical senses of taste and smell. The "trigeminal senses", which perceive chemical irritants in the mouth and throat, as well as temperature and texture, are furthermore important to the overall understanding of flavor perception. The flavor of the food, as such, can be altered with natural or artificial flavorants which have an effect on these senses.

A "flavorant" is defined as a substance that gives another substance flavor, altering the characteristics of the solute, causing it to become sweet, sour, tangy, etc A flavor is a quality of something that affects the sense of taste.

Of the three chemical senses, smell is the major determinant of the flavour of a food item. The five basic tastes – sweet, sour, bitter, salty and savory are unanimously recognized, although some cultures also embrace pungency and fattiness. The digit of food smells is unbounded; a food's flavor, consequently, can be easily altered by altering its smell while keeping its taste alike.

Flavours are generally classified into three categories natural flavouring and artificial flavourings and nature-identical flavourings.

Natural flavouring substances are gathered from plants, herbs and spices, animals, or microbial fermentations. Essential oils as well as oleoresins that are formed by solvent extract with the solvent removed, herbs, spices and sweetness are all various types of natural flavourings. Natural flavourings can be moreover used in their natural form or processed form for human eating and they cannot enclose any nature-identical or artificial flavouring substances.

FSSAI defines natural flavourings as “the essential oil, oleoresin, essence or extractive, protein hydrolysate, distillate, or any product of roasting, heating or enzymolysis, which contains the flavoring constituents derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or any other edible portions of a plant, meat, seafood, poultry, eggs, dairy products, or fermentation products thereof, whose primary function in food is flavoring rather than nutritional.”

Artificial flavouring agents are chemically comparable to natural flavourings but are more easily available and are less expensive. However, one disadvantage is that they might not be a precise copy of the natural flavourings they are imitating like amyl acetate which is used as banana flavouring or ethyl butyrate for pineapple.

Nature-identical flavouring agents are the flavouring substances that are prepared by synthesis or are isolated through chemical process. Their chemical make-up of synthetic flavourings and are identical to their normal counterpart. These flavouring agents cannot include any artificial flavouring substance.

Besides this group there are also natural flavour enhancers such as the MSG, which is monosodium glutamate which brings out the flavours of food it is added in. It has a taste that is different and cannot be called any of the known flavours like sweet, sour, salty or astringent. Monosodium glutamate in the older times was derived from seaweed but now it is manufactured commercially.

List of Foods Where Monosodium Glutamate is not Allowed:

- Milk and Milk Products including Buttermilk, Fermented and renneted milk products (plain) excluding dairy based drink.
- Pasteurized cream, Sterilised, UHT, whipping or whipped and reduced fat creams.
- Fats and Oils, Pulses, Oil seeds and grounded/ powdered food grains, Food grains, Sago,
- Butter and concentrated butter, Margarine, Fat Spread
- Fresh fruit, Surface treated fruit, Peeled or cut fruit.

- Fresh vegetables, Frozen vegetables.
- Pastas and noodles (only dried products).
- Fresh meat, poultry and game, whole pieces or cuts or comminuted. Fresh fish and fish products, including mollusks, crustaceans and echinoderms. Processed fish and fish products, including mollusks, crustaceans and echinoderms.
- Fresh eggs, Liquid egg products, Frozen egg products.
- White and semi-white sugar (sucrose and saccharose, fructose, glucose (dextrose), xylose, sugar solutions and syrups, also (partially) inverted sugars, including molasses, treacle and sugar toppings. Other sugars and syrups (e.g. brown sugar and maple syrup),
- Honey, Saccharine
- Salt, Herbs, spices and condiments, seasoning (including salt substitutes) except seasoning for Noodles and Pastas, meat tenderizers, onion salt, garlic salt, oriental seasoning mix, topping to sprinkle on rice, fermented soya bean paste, Yeast.
- Infant food and Infant milk substitute including infant formulae and follow-on formulate, Foods for young children (weaning foods).
- Natural Minerals water and Packaged Drinking water, Carbonated Water
- Concentrates (liquid and solid) for fruit juices.
- Canned or bottled (pasteurized) fruit nectar.
- Coffee and coffee substitutes, tea, herbal infusions, and other cereal beverages excluding cocoa.
- Wines, Alcoholic Beverage
- Fruits and Vegetables products except those where Monosodium Glutamate is permitted under these Regulations.
- Baking Powder, Arrowroot
- Plantation Sugar, Jaggery and Bura,
- Ice-Candies, Ice cream and Frozen desserts.
- Cocoa Butter
- Malted Milk Food and Milk based foods
- Bread
- Vinegar
- Sugar Confectionery, Toffee, Lozenges, Chocolate
- Pan Masala

Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011 have described flavouring agents under the head 'Flavouring Agents and Related Substances' in the set of laws.

Use of anti-oxidants, emulsifying and stabilising agents and food preservatives in flavour is a common phenomenon now a days. The flavouring agents might have permitted anti-oxidants, emulsifying and stabilising agents and food preservatives.

Restriction on Use of Flavouring Agents: The flavouring agents given below are not permitted for use in any article of food:

- Coumarin and dihydrocoumarin;
- Tonkabean (Dipteryl adorat);
- β -asarone and cinamyl anthracilate.

- Estragole
- Ethyl Methyl Ketone
- Ethyl-3-Phenylglycidate
- Eugenyl methyl ether
- Methyl β naphthyl Ketone
- Propylanisole
- Saffrole and Isosaffrole
- Thujone and Isothujone α & β thujone
- Solvent in flavour
- Diethylene Glycol and Monoethyl ether, shall not be used as solvent in flavours.

Various spices are used for flavouring food products. The differences between the three of them are as follows:

Spice: The word spice may refer to any dried up, perfumed, fragrant or sharp, fit for human consumption vegetable or plant material, in the full, broken down or ground structure, which enhances flavour; whose chief function in food is to provide seasoning and nutrition, and which may donate delight or spiciness to foods or beverages and from which no quantity of any essential oil or another flavouring agent has been deliberately separated, or in which no chemical addition has been done. Spices may comprise of plant parts like the dried arilla, bark, buds, bulbs, flowers, fruit, leaves, rhizome, roots, seeds, stigmas and styles or the entire plant tops.

Condiments: Condiments may be defined as a prepared food composition, containing two or more spices or its extracts, which are added to a food at the time of service, enhance the essence of the food. Condiments are of two types: simple and compound. Simple condiments comprise of celery salt, garlic salt, onion salt, pepper salt etc. Compound condiments contain commodities such as proprietary sauces like chilli sauce, chutney, horseradish sauce, meat sauce, mint sauce, soya sauce, sweet and sour sauce, tomato Ketchup etc.

Seasonings: The spice compounds that are added at the time of manufacturing a packaged food product before the manufacture or before the preparation of the food to enhance the flavour of the food. Eg: mixture of oregano, salt and paprika serves as a seasoning when served with pizza.

CHECK YOUR PROGRESS-III

1. List the various meat tenderiser used in Indian kitchen.

2. What is flavouring agent?

4.8 SUMMARY

A colour is any material that is added to change formulation of colour of the main ingredients. One of the most obvious ways in the food industry is to influence the appearance of a product looks by the addition of colouring agents. These range from natural to artificial colours to washes that enhance browning.

Food colours may be divided into two main categories: artificial and natural. From a regulatory point of view, natural colours cannot be termed natural colours on a food label until and unless they are to be used to colour the identical product. For example, beet juice is actually a natural colour but only if it is used to colour beets. If it is used to colour cherry juice, then it is technically and legally it is deemed to be considered an artificially coloured product and the beet juice will be deemed to be a colour additive.

Food safety and standards authority of India is responsible for regulating all colour additives to ensure that foods containing colour additives are fit for human consumption, contain only permitted ingredients and are precisely labelled. Food and colour additives are strictly studied, regulated and monitored. Food regulations in India (FSSAI) require facts that each substance is harmless.

Artificial colour comprise of water soluble synthetic dyes or the aluminum salts of these dyes, which are known as “Lakes.” These seven primary synthetic dyes and their salts are deemed acceptable by FSSAI for use in foods. unification the seven produces a wide spectrum of colour, including purple, black, brown, and variation of the primary colours. The colours given underneath are known as “Primary Colours”, when they are mixed to create other colours, those colours are then known as “Secondary Colours”.

Food thickening agents are frequently based on either polysaccharides (starches, vegetable gums, and pectin), or proteins. The tasteless powder of starch generally used for this purpose is a fecula This category comprises of starches such as arrowroot, cornstarch, katakuri starch, potato starch, sago, tapioca and their starch derivative. Vegetable gums used as food thickening agents include alginin, guar gum, locust bean gum, and xanthan gum. Protein used as food thickening agents include collagen, egg whites, and gelatin. Sugar polymers consist of agar, carboxymethyl cellulose, pectin and carrageenan. Other thickening agents that act on the proteins which is already present in a food include sodium pyrophosphate.

4.9 GLOSSARY

Tamarind: Tamarind is a tropical tree found in different parts of the world. It generates pods that are full of sweet-sour and thick paste-like a fruit pulp. Tamarind is a commonly used souring agent used in Indian cuisine.

Kokum: A produce of the mangosteen family, Kokum is used as a popular souring agent in the coastline regions of southern India. Kokum adds an element of sourness to curries and lentils preparations. It is an important constituent of stimulating beverages. The fruit's exterior portion that has been properly sun dried is used as a popular souring agent in Assamese, Maharashtrian, Kannada, Assamese cuisines

Yogurt: Yogurt is prepared by the infusion of a live sour culture in the warm milk. As the yogurt sours, it starts to build up small droplets of water on the surface of the yogurt. High amount of water on the surface indicates increased intensity of the sour taste. It is usually used in both North as well as South Indian cuisine.

Kachampuli Vinegar: Kachampuli vinegar used for preparing the famous pandi curry in Coorg and is a regional feature brought as regards by the requirement to preserve fruit. The Kodampuli fruit is simply available in monsoon gathered in baskets and then left to split down into pulp and vinegar which can then be stored and then used in the succeeding months. This vinegar that imparts a distinct taste to the pork.

Pomegranate Seeds: Pomegranate seeds are commonly used to prepare foods like the Chloee. They are a common souring agent used in Indian cuisine.

Kachri Powder: This is a souring agent obtained from a type of wild berry grown in Rajasthan and few other parts of north India. Dried and powdered kachri acts both as a tenderiser for meat if used as a marinade as well as a souring agent for the curries

Amchoor: In north Indian states like Uttar Pradesh and Bihar, dried mango powder is the preferred souring agent used in vegetarian preparations, including the lentils. During the summers small pieces of unripe, tart mangoes are cut and cooked along with arhar dal, or in vegetables. But when the season gets over, the seed is dried and ground to a fine powder, to be used later.

Cornstarch: Cornstarch is the most frequent thickening agent used in the food industry. It is dissolved in water or juice and boiled to make fillings and to give a glossy semi-clear finish to commodities. Commercial cornstarch is made by drenched maize in water containing sulphur dioxide.

Pre-gelatinized Starches: Pre-gelatinized starches are mixed with sugar and then added to the water or juice. They solidify the filling in the company of sugar and water without heating. This is due to the starch being precooked and not requiring to be heated to enable it to absorb and gelatinize.

Arrowroot: Arrowroot is an extremely nutritious farinaceous starch gathered from the roots and tubers of various West Indian plants. It is used in the preparation of subtle soups, sauces, puddings, and custards.

Agar-Agar: Agar-agar is basically a jelly-like substance extracted from red seaweed which is found off the coasts of Japan, California, and Sri Lanka. It is available in strips or slabs and in powdered form. Agar-agar can only dissolve in hot water and is colourless. It is generally used in the ratio of 1% to make a firm gel. It has a melting point much higher than gelatin and its jellying strength is eight times greater.

Algin (Sodium Alginate): Extracted from kelp, this gum commonly dissolves in cold water and a 1% concentration it gives a firm gel. It has the disadvantage of not functioning well in the company of acidic fruits. It is popular in raw icings because it works well in the cold state and holds a lot of wetness. It reduces stickiness and prevents recrystallization.

Carrageenan or Irish Moss: Carrageenan is another type of marine gum obtained from red seaweed. It is used as a thickening agent in a variety of products, from icing stabilizers to whipping cream, at an allowable rate of 0.1% to 0.5%.

Gelatin: Gelatin is a glutinous substance made from the bones, connective tissues, and skins of animals.

Gum Arabic or Acacia: This gum is gathered from a variety of types of trees and is soluble in hot and cold water. Solutions of gum arabic are generally used in the bakery for glazing a variety of kinds of goods, mainly marzipan fruits.

Gum Tragacanth: This gum is obtained from numerous species of Astragalus, which are a kind of low-growing shrubs found in Western Asia.

Pectin: Pectin is a mucilaginous matter (gummy substance extracted from plants which is found naturally in pears, apples, quince, oranges, and other citrus fruits. It is used as the gelling agent in conventional jams and jellies.

Flours: The various types of flours are produced from various variety of cereals like (wheat, maize, rice etc.) which are exposed to specific heat treatments to be able to increase stability, consistency and general features.

Roux: Roux is basically a mixture of flour and fat (usually butter) cooked together, is used for thickening gravies, sauces and stews.

Onion Pastes: Both fried onion paste and boiled onion paste assist to provide thickness to the gravies. They certainly help in adding base or body to the dish apart from acting as colouring agents too.

Masala Pastes: Many types of dry masalas and wet masala pastes are used in the thickening of the dishes in Indian gastronomy. Coriander powder, Turmeric powder and redchilli powders are the common ones.

Lentils: Many Indian preparations have the use lentils for thickening purposes. It is used in various forms around India. The major use is generally seen in south Indian cuisine like sambhar masala, curry powders like mulligatwanny mix etc.

Dairy Products: Such ingredients may include dairy products like such as cream, etc., which are used extensively in Indian cooking to thicken some gravies, Such use of dairy products is more prevalent in commercial establishments. Dairy products are also used in cooking of desserts and for thickening purposes .

Vegetable Purees: Some of the vegetable pastes, such as fresh turmeric, ginger, and garlic pastes, are as well used for thickening of curries. Some green leafy vegetable pastes, such as spinach, fenugreek, etc. are used in the thickening of curries and dishes.

Artificial flavouring agents are chemically comparable to natural flavourings but are more easily available and are less expensive. However, one disadvantage is that they might not be a precise copy of the natural flavourings they are imitating like amyl acetate which is used as banana flavouring or ethyl butyrate for pineapple.

Nature-identical flavouring agents are the flavouring substances that are prepared by synthesis or are isolated through chemical process. Their chemical make-up of synthetic flavourings and are identical to their normal counterpart. These flavouring agents cannot include any artificial flavouring substance.

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4.12 TERMINAL QUESTIONS

1. What is the importance of Indian herbs and spices in imparting flavour to the food? Discuss the role of flavouring agents in Indian gastronomy.
2. Discuss the importance colouring agents in regional Indian Gastronomy.
3. Classify tenderizing agents used in meat cookery.
4. What are the precautions you will take while selecting an aromatic compound for your dessert.