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INTRODUCTION

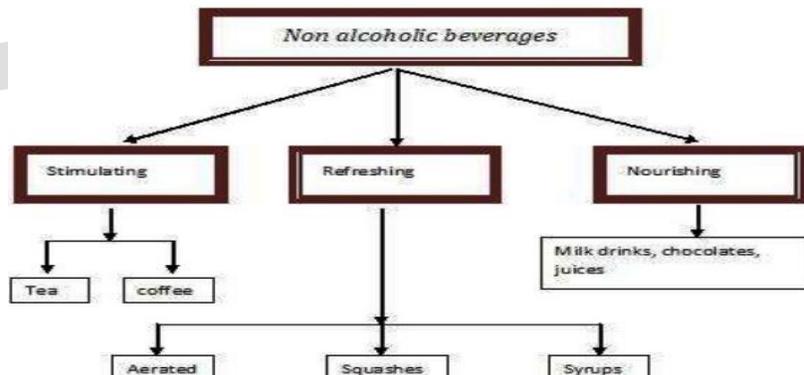
The term “beverages” refer to all kinds of potable drinks which have thirst quenching refreshing, stimulating, and nourishing properties. Beverages are consumed mainly to quench thirst, compensate loss of body fluid due to perspiration, and feel fresh and active, as rituals, during social gatherings, and during and after eating.

Beverages are broadly classified into the following:

- Alcoholic beverages
- Non-alcoholic beverages

NON-ALCOHOLIC BEVERAGES

The term non-alcoholic beverages cover drinks that are either totally free from alcohol or that have less than 0.5 percent alcohol by volume (abv). It includes a gamut of drinks from hot to cold and from simple to exotic. Some of these drinks are made in the still room while some are made in the dispense bar. Every sector of the food service industry serves one or more type of non-alcoholic drinks. Establishments need not have a license to sell non-alcoholic beverages. It should be noted that water, is not covered by the term beverage.



STIMULATING BEVERAGES

A beverage that raises levels of physiological or nervous activity in the body of any biological system is called as stimulating beverage. Tea, coffee and Cocoa fall into the category of stimulating beverages. The stimulating effect in these beverages is due to a few elements present in them.

TEA

Tea is prepared from the leaf bud and top leaves of a tropical evergreen bush called *Camellia Sinensis*. It produces what is regarded as a healthy beverage containing approximately only half the caffeine of coffee and at the same time it aids muscle relaxation and stimulates the central nervous system. Tea was discovered by accident over 5000 years when leaves from a tea bush accidentally dropped into some boiling water and delicately flavoured the drink. Tea was originally drunk for its medicinal benefits and it was not until the 1700's that it began to be consumed as the delicious beverage that we know today.

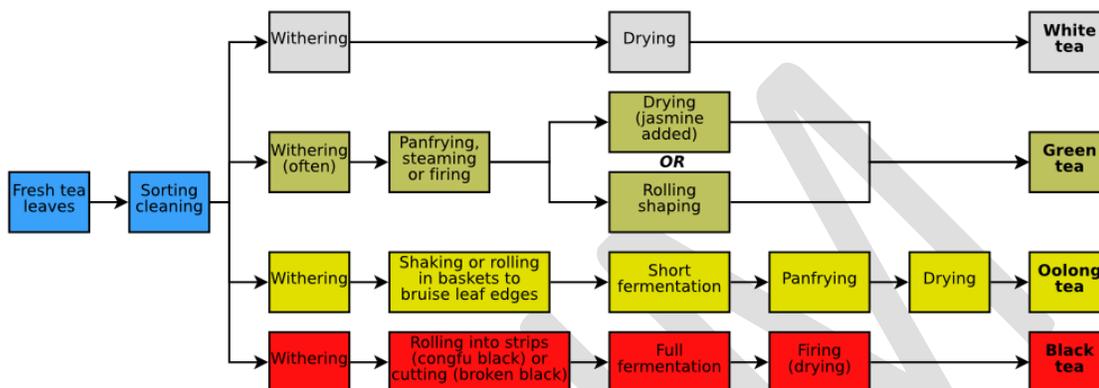
Tea is grown in more than 25 countries around the world. The crop benefits from acidic soil and warm climate and where there is at least 130cm of rain a year. It is an annual crop and its flavour, quality and character is affected by the location, altitude, type of soil and the climate. The main producing countries are China, Sri Lanka, India and East Africa.

MANUFACTURING PROCESS OF TEA

- **Withering the leaf:** On reaching the factory, which is usually close to the plantation, the plucked leaves are first weighed. They are then spread out evenly and thinly on special racks (slatted). At this stage, they lose 50% of their moisture by evaporation. This stage takes 24 hours, depending on the surrounding temperature and the humidity in the air.
- **Rolling the leaves:** The leaves are put through rolling machines that break up the leaf cells, thus releasing natural juices and bringing them into contact with air. At this stage, the finer leaves are separated from the larger coarser leaves and are then further separately processed.
- **Fermenting the leaves:** This isn't really a true fermentation, but the oxidation stage. Tannin, which is the astringent substance in the tea leaf, is oxidized and leads to development of aroma, flavour and colour of the leaf. The leaves are spread out in a cool but humid room under controlled conditions, on racks for approximately 3 hours, during which they turn a coppery colour by the absorption of oxygen.
- **Firing the leaves:** To stop the fermentation process, the leaves are 'fired' through a current of hot and dry air for about 20 to 30 minutes. The leaves turn black, dry and crisp.
- **Sifting and Grading:** The dry tea is then sifted, graded and packed into foil – lined tea chests and sealed to protect the leaves from moisture and other odours. These chests are then shipped to the blenders.

TYPES OF TEA

The climate, soil conditions where the tea is grown, and how the tea is processed, determines the flavor characteristics of the tea. Tea is harvested after each flush - the sprouting of the top two leaves and bud. Tea pickers' motto is 'two leaf and a bud.' The top two leaves and bud are hand plucked and then processed into any of the four types of tea, which are Black, Green, Oolong, and White.



- Black Tea:** The leaves are withered, then rolled till they become soft and massy. This is done to break up the fiber and cells of the leaf to liberate the constituents so that their extraction is easy. The leaves are then fermented. During the process of fermentation some of the acid in the leaves oxidizes and is converted into less soluble forms while more essential oils develop. After fermentation is complete, the leaves are fired in a drying machine. Some of the popular black teas include English Breakfast, and Darjeeling.
- Green Tea:** This process skips the oxidizing step. It is simply withered and then dried. It has a more delicate taste and is pale green/ golden in color. The main difference between black tea and green tea is, the former is fermented while the latter is not. Since the purpose of fermentation is to make tannin less soluble, an infusion of green tea has more tannin in it, astringent and slightly bitter to taste.
- Oolong Tea:** It is popular in China, it is withered, partially oxidized, and dried. Oolong is a cross between black and green tea in color and taste.
- White Tea:** This tea is least processed. A very rare tea from China, White tea is not oxidized or rolled, but simply withered and dried by steaming. The best tea generally produces a pale-colored infusion and the depth of color is not necessarily a 'sign of strength.' Freshly infused tea is harmless to normal digestion; continued infusion extracts the tannin, a bitter substance which is harmful.



GOLDEN RULES TO MAKE TEA

- Use a good blend of tea.
- Use freshly boiled water.
- Warm the teapot by swirling with hot water.
- Add tea leaves to the warm pot (42.5-56.7 gms of tea leaves per 1 gallon (4.546 lt.) of water).
- Take the pot to the water so that the water never goes off the boil. (Water should be 95 degree Celsius, before it is poured over the tea leaves)
- Allow the infusion to stand for at least 3-5 minutes, stirring occasionally.
- Remember – “Tea should be brewed, not stewed”.

STORAGE OF TEA

Tea easily absorbs moisture and odors and so it is essential that it is kept in a cool dry place away from any strong smelling items. Tea must be stored in an airtight container not exposed to light and used within a reasonable time. Because light breaks down the quality (photo-oxidation) of tea, glass containers are not suitable for the storage of tea unless stored away from light. If the tea in chest, they should be kept off the ground and at 16 cm or 6 inches away from the wafts. This allows a current of air to circulate round the tea chest and averts dampness.

TEA BRANDS

Twinings; Tazo; The Republic of Tea; Lipton; Yorkshire Tea; Harney & Sons; Dilmah; Bigelow; Tetley.

COFFEE

Coffee is the highest drunk beverage in the world after water. The coffee plant is native to Sudan and Ethiopia. A fierce red coloured fruit called as cherry contains the seed or the coffee beans. The word coffee has originated from the Italian word “Caffe”. The two species that produce coffee are Coffee Arabica and Coffee Robusta.

MANUFACTURING PROCESS OF COFFEE

When the berries are ripe, they are picked by hand and taken or exported to the processing plant. The berries are about the size of a small cherry and consist of an external red skin, a layer of pulp, a tough parchment like inner membrane, a thin silver skin and finally two beans. Depending on the country where the processing takes place, either one of the following methods will be used:

- **Dry Method:** It is used in the country which don't have abundant water supply or where the value of cured beans doesn't warrant the extra costs of washing. The berries are spread out thinly in the sun and left till the pulp shrivels tightly onto the parchment and allowed to dry. The berries are then put through a hulling machine, which removes the parchment and the pulp in one stage. Very little sorting of the berries is done and some may carry traces of the silver skin and lack the appearance of the washed beans.
- **Wet Method:** This method is used in countries which have sufficient water supply and where the quality of the bean grown warrants extra processing costs. The berries are put

through a de-pulping machine to remove the fleshy part of the berry leaving the two seeds in their jackets. They are then placed in large vats and are allowed to ferment partially for 24-40 hours. This fermentation serves two purposes. It helps to develop the aroma of the cooked coffee and also helps to remove any adhering pulp. When the fermentation stage is complete, the beans are thoroughly washed and then spread out in the sun to dry completely. The next stage is the removal of the parchment by machines, to leave just the clean olive green beans.

Roasting: The roasting process is integral to producing a savory cup of coffee. When roasted, the green coffee bean expands to nearly double its original size, changing in color and density. As the bean absorbs heat, the color shifts to yellow and then to a light "cinnamon" brown then to a dark and oily color. During roasting, oils appear on the surface of the bean. The roast will continue to darken until it is removed from the heat source.

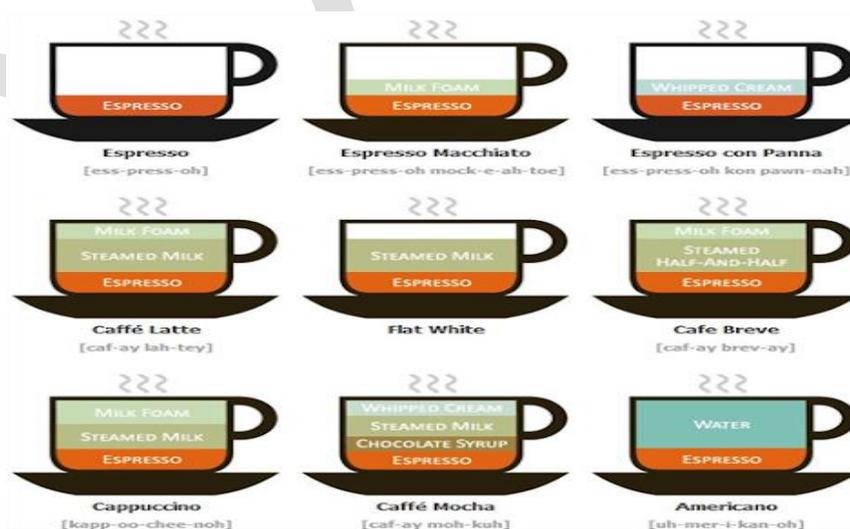
- Light roasting – for mild beans to develop the aroma.
- Medium roasting – for stronger flavor.
- Full roasting - for a bitter flavor.

Grinding: The whole roasted coffee beans are ground, which is also known as milling, to facilitate the brewing process. It preserves the flavor as much as possible. There are four methods of grinding coffee for brewing - burr-grinding, chopping, pounding, and roller grinding. The fineness of grind strongly affects brewing, and must be matched to the brewing method for best results. Brewing methods which expose coffee grounds to heated water for longer require a coarser grind than faster brewing methods. Uniformly ground coffee is better than the mixture of sizes produced by a mill with chopping blades. Many coffee drinkers grind the beans themselves immediately before brewing.

Blending: Blended with chicory roots of coffee, dried and powdered.

TYPES OF COFFEE

Popular coffees are listed below with a pictorial representation.



SPECIALTY COFFEES

It is a coffee drink with a shot of liquor or liqueur. Following are the various specialty coffees widely served in the industry.

- Irish Coffee (Irish Whiskey)
- English Coffee (Gin)
- Jamaican Coffee (Rum)
- Monk's Coffee (Bénédictine)
- Seville Coffee (Cointreau)
- Russian Coffee (Vodka)

COFFEE BREWING METHODS

Good coffee can be made by several methods. They are well explained below.

- **Espresso Coffee:** This method, Italian in origin, involves passing steam through the finely ground coffee and infusing under pressure. Each cup of coffee is made freshly for the customer and served black in small cups.
- **Filtration:** The drip pot consists of an upper compartment, which is perforated and lower compartment, which is a receiver for the filtered beverage. The perforations of the upper compartment are covered with thin filter paper or with cheesecloth to prevent the passage of coffee into the beverage. By this method, the water filters through the coffee into the lower compartment.
- **Percolation:** The percolator includes a pot, a coffee basket and a hollow stem to support the basket. Measured coffee is placed in the basket, which is placed on the steam, and then both are inserted into the pot. When heat is applied, the water is forced up by steam and spreads over the coffee basket onto the coffee, and down into the pot. Only a small portion of the water at any one time reaches the basket. When percolation begins, the heat is adjusted so that water reaches the top of the basket about every two seconds. This gentle percolation is continued for six to eight minutes, until the desired strength is achieved.
- **Instant Coffee:** This is the convenient form of coffee most widely used today. No special equipment is required and the product is of an acceptable standard. Instant coffee is pure coffee concentrate, which is atomized to a fine mist in a drying chamber containing hot air. Accelerated freeze dry method has produced an instant coffee that resembles the freshly ground coffee and which dissolves completely quickly.
- **French Press Coffee:** Coffee is brewed by placing coarsely ground coffee in the empty beaker and adding hot water. The brewing time is



about two to four minutes. Then the mesh plunger or piston is pressed, to separate the grounds and hold them at the bottom of the beaker.

BRANDS OF COFFEE

Nescafe, Bru, Lavazza, Starbucks, Davidoff, Blue Tokai, Flying Squirrel, Café Coffee Day (CCD), Seven Beans and the Indian Bean.

COCOA

The cocoa tree (*Theobroma Cacao*) is a native of the dense tropical forests of the Amazon. The cocoa plant is a small tropical tree, originally grown in South and Central America; but now commercially grown in West Africa. The cocoa tree requires a good soil, a huge rainfall and a low altitude. The part of the plant that is processed and used for the making of cocoa and chocolate is the fruit that grows on the main trunk of the tree, as well as on the branches. The fruit is a large pod 4" to 12" in length and about 4" in diameter and has a hard leathery rind containing 25-75 seeds in distinct rows, embedded in a soft pulp.



MANUFACTURING PROCESS OF COCOA

Producing cocoa is one of the complicated processes. It requires expert monitoring, technology and a lot of patience. To simplify it the cocoa is a byproduct of making block chocolate process.

- Chocolate is made from the dried and partially fermented seeds of cocoa tree.
- When the pods ripen, they are harvested from the cocoa tree.
- The pods itself is green when ready to harvest, rather than red or orange.
- Normally red or orange pods are considered to be of inferior quality, because their flavors and aromas are poor.
- The harvested pods are opened, the pulp and cocoa seeds are removed and the rind is discarded.
- The pulp and seeds are then piled in heaps, placed in bins or laid out on crates, for several days.
- During this time, the seed and pulp undergo "sweating", where the thick pulp liquefies as it ferments. The fermented pulp trickles away, leaving cocoa seeds behind to be collected.
- The seeds are then dried, cleaned, roasted (*roasting develops the flavor and color*), cracked (*passed through corrugated rollers to break their shell and separate the germ*) to

remove the nibs (*roasted, de-hulled and de-germed beans are called nibs*) and then ground to a smooth liquid containing 55% fat.

- The fat is then pressed out to leave about 25 % of the original and the resultant mass is ground into fine powder, mixed with flavoring materials and homogenized, is the cocoa from which beverage is prepared.

REFRESHING BEVERAGES

A beverage that replenishes the fluid loss in a body of any biological system that occurred due to perspiration is called refreshing beverage. These beverages help in refreshing people, after long hours of work. When refreshing beverages are consumed chilled, it results in reducing one's body temperature, which finally produces the effect of refreshed feeling. The refreshing beverages include water, aerated drinks, squashes, ginger ale and tonic water. In the following section, each of these refreshing beverages is discussed in brief.

Aerated Beverages: These are fizzy drinks aerated with carbonic gas commonly found in kiosks, café, restaurants, bars, discotheque etc. These drinks are artificially coloured, flavoured & sweetened with small amount of natural ingredients.

Examples of Aerated Water:

Soda Water Colourless and tasteless

Tonic Water Colourless and quinine flavoured

Cola Made from bark of cola tree having phosphates, tannins, artificially sweetened.

Fizzy drinks are available in bottles and cans. They are also available as post mix in operations having high turn over.

Squashes: Squash is a highly-sweetened and concentrated pulp of fruits, which is diluted with a liquid, most commonly water, before drinking. Typically, squash is created by mixing one-part concentrate with four or five parts of water (depending on concentration and personal taste) directly into a glass or mug or into a jug. Squashes are also mixed with spirits or cocktails. The most common flavors are orange, apple and blackcurrant, lemon, peppermint, mixed fruit, summer fruits, and lemon-lime. Other flavors include peach, strawberry, passion fruit, custard apple and kiwi fruit.

Cordials: These are generally made of fruits having high sugar content, colouring, flavouring and class II preservative. Eg. Lime Juice Cordial, Black Currant Cordial, Ginger Cordial

NOURISHING BEVERAGES

The beverages that supplement nutrients to the body are termed as nourishing beverages. Fruit juices, milk and other milk based malted drinks have been traditionally associated with this category. Nourishing beverages provide good health and energy to our body. In the following paragraphs these beverages are explained in brief.

Malted Beverages: The malted drinks such as Bournvita, Milo, Ovaltine, Complan, and Horlicks fall in this category. These are sweetened powder mixes that dissolve readily in milk to give a rich and wholesome drink. These are portioned in coffee pots and served in coffee cups. The serving procedure is the same as coffee.

Juices: These may be freshly squeezed, bottled or canned. The most common available are:

Orange Juice
Pineapple Juice
Grapefruit Juice
Apple Juice
Guava Juice
Mango Juice
Mix Fruit Juice
Melon Juice

Mocktails: Mocktails are contemporaries of cocktails except for the fact that unlike cocktails, they contain no alcohol. The concept of mocktails originated from the urge to cater to the people who frequented the bar but had no desire or urge to consume alcoholic drinks. Earlier, these people were served with either carbonated drinks or fruit juices. These, however, lacked the style and mystery associated with the cocktail. To satisfy the urge of these people, the bartenders came up with exotic ideas and created drinks which had all the qualities of a cocktail without any alcohol in it. Since, these drinks were created as a substitute to cocktails; they came to be called as Mocktails or a drink which had the qualities and sophistication to make mockery of a cocktail.

Ingredients Required:

- Syrups – Grenadine Syrup, Raspberry Syrup, coconut and chocolate syrup.
- Carbonated Drinks, Mineral water, soda, ginger ale and tonics.
- Fruit Juices – Pomegranate, grapefruit, mango, apple, orange, lemon, pineapple, tomato etc.
- Crush – Strawberry, blackcurrant etc.
- Ice creams – Vanilla, chocolate, mango, mixed fruit etc.

Golden Rules for Making Mocktails:

- Make sure that the shaker is perfectly clean because impurities will spoil the drink.
- Ingredients always mix better in a large shaker so try to avoid a small one.
- Ice is nearly essential for most of the mocktails but the same ice should not be used twice because the ice will absorb the flavour from one drink and impart it to the other.
- Mocktail glass should be previously chilled.
- Shake the cocktail shaker as hard as possible for 10-15 seconds.
- Serve immediately after shaking.
- Always use the best quality of garnishes.
- Mocktails containing carbonated beverage are never shaken.
- If egg white or yolk is to be used as a modifier, it should always be broken in a separate bowl.