UNIT: 01 BAR

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1.1 INTRODUCTION

The term 'bar' referred as a counter for dispensing goods and services. In hospitality sector it is define as a counter where food or beverage or both are provided and sold.

Thus, there are food bars as well as beverage bars. Food bars include Snacks bars, Sandwich bars, Sushi bars and Oyster bars etc. However, in food & beverage establishment, the term 'bar' means the beverage bar mainly serving alcoholic beverages.

Bar is a licensed premises selling various type of alcoholic beverages to the gusts. Bars are found in Hotels, Motels, Resorts, Casino, Clubs, Special trains, Cruise liners and many other similar establishments. Bar can be found as independent outlet also. Many bars have a discount period, designated a "happy hour" to encourage off-peak time.

1.2 OBJECTIVES

After reading this unit the learner will be able to:

- Define bar
- Understand the importance of bar
- Know various types of bar
- Know the layout of bar and equipments used in bar
- Understand use of Bar Order Ticket
- Understand various bar menus

1.3 IMPORTANCE OF BAR

In Hotel, a bar is one of the main revenue generating outlets of the food and beverage department. The key function of bar is to serve alcoholic beverages in proper glassware according to guest's choices. Guest like their drinks with various mixer such as soda, coke lemonade, tonic water, ginger ale and water etc; some like with ice or without ice and some prefer their drinks 'neat' or nothing added. Generally complimentary snacks are served along with the guest preferred drinks in most of the bar, established by the management. The bar must have adequate supply of all kind of alcoholic beverages, non alcoholic beverages, ice, straws, coasters, different glassware and kitchen stock etc. within the reach of bar personnel's. Bar is set for service and storage of all these items mentioned for smooth functioning. Bars also required lighting, drainage, electric supply and water supply with running hot and cold water facility for making ice in ice machine, washing of glassware and to operate other machinery such as fountain soda etc. All bars should be equipped with proper drainage system to ensure that the water drains rapidly.

1.4 TYPES OF BAR

Bars can be classified in various ways such as on the basis of function; Theme and Ambience; Key Product (Beverage) served, and Specialized Entertainment offered etc. the various basis of classification of bar is as under:

- On the basis of function
- On the basis of theme and ambience
- On the basis of key product (beverages) served
- On the basis of specialized entertainment offered

1.4.1 On The Basis Of Function

On the basis of function bars may be classified into:

Front Bars: These are also called as public bars. They are located in front of the house; facilitating maximum interaction of bartender with guests. Some guests are seated and served at the bar counter itself while others purchase drinks at the bar counter and consume standing or carry them to the tables provided. Basic front bars offer adequate bar skills, beverage lists, comfort, décor and ambience. Front bars may or may not provide entertainment.

Service Bars: These are also called as dispense bars. Here bartenders do not serve the gust directly but pour drinks that are picked up by servers and delivered to guests at different locations such as guestroom, a table in the restaurant or poolside. In short, it fills drinks orders brought by servers only. Generally in such bars, a single pouring station is enough to handle the need. It is of two types:

Back of the House Service bar are located behind the scenes and hidden from guest view. They are smaller and simpler in design. Back bar of such bars have a room for bulk supplies of beer, mixes, liquor stock and has no display. These bars acts as centralized bar dispensing drinks in various guest service areas like different outlets, gusts rooms, and poolside's etc. and hence located centrally in a hotel.

Front of the House Service bar are in full view of the guests but used only for dispensing drinks to the servers against guest's order. These bars are less common; are generally found in conjunction with food service and part of the dining room. These bars must harmonize well with the overall ambience hence carefully designed for optimum efficiency and smooth functioning.

Special Function/Banquet Bar: This is temporary bar setup in banquet hall to serve alcoholic beverages during a specific function. The type and quantity of drinks to be served are generally predetermined at the time of booking the function. The banquet bar collects the desired stocks either from cellar or from the main bar as per policy of hotel.

Mini Bars: In a guest bedroom a small bar is added in which an assortment of soft drinks, beers and some wines are stored along with the menu cum rate list. It is

customary to keep miniature bottles of spirits also and some dry fruits, liquor chocolates, wafers etc. The actual consumption is recorded at checkout time and bill is made as per actual consumption. Billing and refilling is usually done once a day for a stay over guest and on check out for departing guest by housekeeping or room service department team as per hotel's policy. These bars are means of visual merchandising to increase beverage sales.

1.4.2 On The Basis Of Themes and Ambience

On the basis of Theme and Ambience bars may be classified into:

Cocktail Lounges: Cocktail lounges are more comfortably furnished, more luxurious in ambience and more expensive than public bars, thus an enhanced version of public bars. Seating includes chairs with armrests, sofas/couches and coffee tables are spaciously laid out. The ambience is particularly relaxing with enhanced elegance and style. Entertainment may be in form of live music and some cocktail lounges may be themed. Guests use these lounges for aperitifs in evening before proceeding to an in house restaurant for dinner.

Sunken Bars: As the name suggests these bar are immersed (sunk) and surrounded by water on all sides i.e. it is built in the middle of a swimming pool. These bars are usually found in resort hotels. Here guests swim to the bar to collect the beverages and consume it seating at immersed bar stools or on air floats.

Pubs: It is a word derived from 'Public House' – a licensed house for the sale and consumption of alcoholic beverages. Most pubs were owned by breweries to sell their own products, but today they are operated by others also. They dispense common beers, standard spirits and wines.

1.4.3 On The Basis Of Key Product (Beverages) Served

On the basis of Key Product (Beverage) served bars may be classified into:

Wine Bars: As name suggest, these bars serve a wide range of wines by glass/carafe/bottle and wine based beverages. Foods served include cheese board, fruit platter and hors d' oeuvres specialties. Wine list consists of a wide range of wines from inexpensive house wines to quality wine. Now- a- days wine bars are simple and have a wine oriented ambience and often broaden by serving meals as well.

Cocktail Bars: These are full service bars serving an entire range of alcoholic as well as non alcoholic beverages but specializing in wide range of cocktails and mixed drink (both classical and innovative). Bar menu are designed focusing on

cocktails and the proficiency and skills of the bartenders. Cocktail bars are upmarket beverage outlets, generally found in luxury hotels and are luxuriously furnished and well equipped. It stock complete range of liquors, garnish and glassware in order to produce and serve different cocktails and mixed drinks.

Beer Bars: As the name suggests, these bars stock and serve only or predominantly variety of beer and beer based mixed drinks. They sell various styles and brands of popular beer such as lager, ales, Pilsners, Porter, Stout and draught etc. by can, bottle, glass, pint or pitcher.

1.4.4 On The Basis Of Specialized Entertainment Offered

On the basis of function bars may be classified into:

Jazz Bar: As the name suggests, these bars provide entertainment in form of Jazz music on the premises and it is the bar's main attraction apart from the bar itself.

Sports Bars: As the name suggests, these bars provides different sports entertainment on big LCD/LED/Video wall screens. Generally these bars are equipped with series of screens and décor is based on the theme of various sports. Generally sports bars are found in clubs and hotels and are very busy during football season, Tennis Tournament, Cricket world cup and other such sports activities.

CHECK YOUR PROGRESS-I

1. Define Bar and discuss its origin.

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2. Write a note on 'Types of Bar".



1.5 BAR ORGANIZATION STRUCTURE



The various position and number of bar personnel needed varies from one bar to another and one establishment to another establishment. Also the duties and responsibilities of different positions depend on the size and organization of operations. The organization charts and duties and responsibilities of various bar positions are as follows:

1.5.1 Bar Manager

The bar manager is responsible for beverages service in the entire hotel or large restaurant operation. She/he generally reports to the food & beverage Manager/ Director. The bar manager is responsible for all functions of bar and the dispense bar. The responsibilities are as follows:

- Forecasting Sales volumes of bars.
- Preparing budgets for bars.
- Handling Guest's complaints.
- Ensuring low beverage cost.
- Generating various reports for MIS.
- Ensuring budgeted bar profit levels.
- Recruiting staff for various position of bar and arranging staff training.
- Ensuring smooth service in bar all the time.
- Searching and researching beverage supplier for procuring.
- Monitoring performance of all bar personnel as well as all bars under his/her control.
- Ensuring proper inventory control of all the stock.
- Formulating bar policies and reviewing them timely.
- Establishing quality, quantity and service standard of all alcoholic and non alcoholic beverages and maintain them all the time in bar.
- Formulating beverage control system against pilferage, theft and frauds.
- Ensuring day to day smooth operation of bar.
- Controls production and service of all beverages.

1.5.2 Head Bartender

She/he generally reports to the bar manager and is responsible for overall function of bar. Duties and responsibilities include:

- Supervising all the bartenders under her/his control.
- Formulating Duty Rota for bar staff.
- Assisting bar manager in day to day operation and relieving her/him on day off and during holidays.
- Maintaining Opening and closing inventory.
- Issuing stock to different bars in hotels against indent/requisition.
- Ensuring training of bar staff in order to recording orders, produce cocktails/mock tails, preparing glasses for drinks, garnishing beverages and service procedures.
- Ensuring predetermined par stock level of beverages.
- Receiving stock from the cellar.

• Maintaining empty bottle record.

1.5.3 Bartenders

The bartender is central figure in any beverage service operation. She/he is a salesperson, entertainer, mixologist and psychologist. They are responsible for the following:

- Mixing and serving various drinks to guests seated at the bar counter and pour drinks for table guest served by servers against Bar Order Ticket (B.O.T).
- Recording each drink sale in the system.
- Washing glassware, utensils and bar equipments.
- Maintaining a clean and orderly bar.
- Stocking the bar before opening and closing the bar.
- Performing cashier job i.e. receiving cash from guests, getting bill signed by inhouse guests.
- Establishing good guest relationship in order to build organization image and goodwill.
- Inventing new drinks and promoting traditional one.

1.5.4 Bar Servers

Servers are a group of waiters/waitresses handling food & beverage service at tables in various kinds of bar/dining rooms. Their duties and responsibilities include:

- Keeping the Mise En Place and Mise En Scéne activities ready for service.
- Recording guest's order on B.O.T, transmitting them to the bartender and collecting them from bar.
- Serving guest's drinks at the tables in bar in efficient and friendly manner.
- Collecting payments from the guest or getting bill signed by in-house guests.
- Returning empty glasses to the bar for wash and keeping tables clean.
- Referring complaints to the head bartender, if any.

1.5.5 Wine Waiter/Sommelier/Wine Steward

They are found in up-scale restaurants where wines are served along with food. Sommeliers have vast knowledge of various kinds of wines and serving procedures as well. Their responsibilities include:

- Present the wine list to the guests.
- Offerings recommendations and suggestions, if needed.
- Taking order and recording it in the system.
- Collecting wines/poured-out spirits against bar order ticket and serving to the guests.

• Serving liqueurs at the end of the meal.

1.6 LAYOUT OF BAR

The size, shape and placement of the bar should fulfill two different purposes i.e. the element of layout & décor and the element of function. The element of layout & décor are primary concerns of the owner, architect and the interior designer who plan the size, shape, appearance and position of the bar in the room. The element of function i.e. the working areas, where drinks are prepared and poured, are planned by a facilities design consultant or an equipment dealer. The bar should be designed in such a manner that it should be efficient and well functional, which can be achieved by keeping the guest's need and flow of work in mind.



PARTS OF BAR

Typical bar is made up of three parts: The front bar. The back bar and the under bar. Often it may have a fourth part – The over bar. Each part has its specific functions. The figure shows all these parts in profile with its standard dimensions. The length of the bar will vary according to need.

1.6.1 The Front Bar

Guests order their drinks and these drinks are served at the front bar, thus it is meeting point for guests and bartenders. The front bar should be functional and have adequate

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space for the pouring and serving beverages. The width of the bar is 16-18" (inches) with an alcohol proof and waterproof top surface, usually made of laminated plastic or high quality granite and should be easy to clean. Usually a padded armrest runs along the front edge from one end to another. If armrest is provided, around 8" (inches) space must be added up to the width of the bar, hence the total width of front bar is 24-26" (inches). The last few inches of the back edge of the front bar are usually recessed, and the bartenders pour the drinks here, to demonstrate liquor brands and pouring skills. This recessed area is known by different names such as glass rail, drip rail, spill trough or just 'rail'. The front bar is supported on a vertical structure is known as 'the bar die'. It is like a wall separating the guests from the working area. It forms a 'T' with the bar, making a kind of table on the guest side, with other side shielding the under bar from public view. The guest side may be padded, decorated with attractive carving or left plain. There is usually a footrest running the length of the counter on the guest side, about 9-12" (inches) off the ground; footrest is made of brass rail.

The height of the front bar, normally 42-48" (inches), is a good working height for the bartenders. It also makes the front bar just right for leaning against, with one foot on the footrest. All under bar equipment are designed to fit under the 42-48" (inches) high front bar.

If it is a sit-down bar, it will have stools tall enough (usually seat rung 30" high) to turn the front bar into a table. Each stool is provided a 2' (feet) length of bar. The stool should be comfortable with rugs for footrests, or the footrest of the front bar is within easy reach.

A bar where drinks are served from the main bar for table service or other outlets, the front bar must have a separate pick-up station set away from bar guest's area with the help of railing, where servers turn in, receive beverages order and return empty glasses.

1.6.2 The Back Bar

It is located at the back of the bar counter leaving sufficient space for the bar personnel to do their job comfortably. The back bar is usually 24" (inches) in depth and has two functions i.e. the decorative function of display of liquors and storage function of liquors. Traditionally, bottles of liquors and sparkling assorted glassware are displayed in back bar to enhance the appearance of bar. Usually back bar is lined with mirror, which has two purpose; firstly due to reflection it doubles the splendor of the bottles and secondly it gives the person sitting at bar to view others in the room or bartenders to observe the guests without being noticed. The mirror also adds depth to the room due to which bar looks bigger in size. Back bar also acts as visual merchandising tool for the bar. New trend in back bar to include posters, pictures, tainted glass, antiques, plants or textured wall etc. to look more attractive and to break the monotony. Most of the bars are fitted with overhead slotted racks to store stemware which makes the bar more attractive.

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The base of the back bar is usually 42" (inches) in height and functions as a storage space and the part of it may be a refrigerated cabinet or it may house special equipments such as glass frosting machine, bottle cooler or ice machine etc. Whatever be its uses, since it is visible to guests, it should not only visually pleasant but harmony with décor also. The extra stocks such as napkins, cocktail umbrellas, slavers, jugs, sugar, condiments or drinking straws are stored.

1.6.3 The Under Bar

It refers to the area under the front bar of the bartender's side and is the heart of the entire beverage operations as the bartenders will be facing guests while producing their drinks. The under bar should be designed keeping in mind the equipment required, types of drinks to be produced and mixes required for the drinks. Thus workflow must be considered while designing and utmost care and attention should pay.

According the volume of business and length or style of bar counter, the under bar can be divided in to several pouring station for smooth functioning. Each station should have individual supply of fast moving pouring liquors, ice, mixes, glassware, mixer, blender, sink and garnishes within arm's reach of bartenders. The liquors in each pouring station are grouped into 'Calling Brands' and 'Pouring Brands'. Most of the busy bars should have Bar Guns (automated dispensing machines) for mixes in each pouring station. If draught beer is sold the beer dispensing units must also provided as per volume of business. The under bar also contains equipment for washing glasses and other bar

equipment sink system with drainage or mechanical dishwasher. Clean bar glasses should be kept group wise according to type and stored in glass racks/shelves overhead or



racks near each pouring satiation. Adequate storage area should be provided for reserve stocks of wines, beers, spirits, liqueurs and kitchen supplies. The under bar must also have provision for hand washing sink and waste disposal.

1.6.4 The Over Bar

As the name suggests, it is a fitting or fixture found above the front bar. It solves two purposes, one the function of design or decor and other the function of storage of stemware glasses are hung from slots. Care must be taken while over bar is provided at a convenient and adequate height so as to not impede efficiency. Like every other part of the bar, the over bar also blend well with overall décor of the bar.

All the parts of the bar must be functioning well keeping the requirements of the guests as well as bar personnel in mind. The minimum space from back of the back bar to the front of front bar is 8' (feet) to ensure smooth operations of bar.



BAR - LAYOUT & DIMENTIONS

Shapes of Bars: A bar may be in different shape and sizes depending on so many factors. The shape of the bar mainly depends on the area available, shape of area available, theme of the décor and convenience of operations. It may be straight, U-shape, L-shape, square, round, horseshoe and wave-shape etc. The size of the bar depends on the area available,

business volume and the different types of beverages on offer. Irrespective of shape and size, all bars should have all parts of bar i.e. front, back, under and over bars.

PLUMBING: Ice machines, Sinks, Bar Guns dishwashers and other such equipments required water supply. One cannot imagine running a bar without proper water supply. Drainage system is also utmost important facility for refrigerator, dishwasher, sink, ice machine, ice sinks etc. If drainage facility is not provided, bar will be unhygienic and messy; and will harm bar hygiene standards and safety standards; adversely affecting business.

ELECRTICITY: All equipments required electricity to operate; therefore bar should have enough plug points located over of each working station, below the bar counter, and the back area depending on the locations of equipment. It is advisable to avoid cables running across the working area which may leads to accidents.

FLOORING: The bar floor should be hard and non porous e.g. tiles, for the safety and comfort, as bartenders are on their feet for long hours. The flooring material should be comfortable, non-slippery (safe), easy to clean and mopped dry. The floor should be covered with slotted rubber mats to minimize slippage but must be cleaned regularly as spills go down between the slats, to minimize hazard of slipping.

LIGHTING: Light is use for creating and making both light and dark surfaces. It plays vital role to change atmosphere of the bar and the human moods, brightness can make people feel happy and absence of light can cause sadness. If lighting is poor and does not blend with the theme of décor, the bar will not get proper recognition. All lighting equipments should be functional. Bar personnel working efficiency also influenced by lighting as bright lights are required in over the under bar and the back bar, this not only improves the performance of bar personnel but also impress the guests. Indirect or diffused lighting may be used over the guest's area. Bright lighting is better for the influence of alcohol and also able to appreciate the content as well as colour of drinks in appropriate glassware.

HVAC (**HEATING, VENTILATION & AIR CONDITIONING**) **SYSTEM**: Heating and air cooling system have begun to taken for granted over the years in the most of the beverage service outlets. Having an air conditioning system 'A/C and HAVAC' in place would make the environment more user friendly. A well-situated air conditioning system during construction would provide a better controlled heating, cooling and well ventilated atmosphere, which could be centralized and automated.

CHECK YOUR PROGRESS-II

1. List the duties and responsibilities of Bar Manager.

2. Write a note on 'The Back Bar".

1.7 BAR EQUIPMENTS

Bar equipments can be classified as per their size, location and uses etc.

1.7.1 Large Under Bar/Back Bar Equipment

Pouring Station: This is main equipment used for mixing drinks and also known as cocktail station, cocktail unit, jockey box or beverage center and outfitted with the followings equipments:

Ice Chest (Ice Bin): It is centerpiece of any pouring station, and is usually 30" (inches) long with removable or sliding doors. Sometimes, it comes with a divider, enabling two different types of ice to be stored i.e. cube & crushed ice or two different shapes of ice cubes.

Bottle/Speed

Rails: The front of the station is consists of а 3'6" (three feet & six inches) bottle speed with a shorter hang-on rail on the front. Sometimes, there is a double rail on



the hand sink as well. Speed rail contains mostly 'Pouring Brands' liquors but some popular 'Calling Brands' also within easy reach of bartenders.

Bar Blender & Bar Mixer: Bar blender and mixer are located on a recessed shelf

of the cocktail unit. The spindle blender has a shaft coming down from the top that agitates the contents of its mixing cup and it is a mechanical substitute for a hand shaker. Mixer takes the mixing process one step



blender as well as mixer.



further as it can grind, puree and refine ingredients and is used in making cocktail like Frozen Margarita and Banana Daiquiri etc. Modern's bars have both the **Condiments/Garnishes Cups**: Condiments /Garnishes cups are used to hold garnishes and are located in double rows on the left of the ice chest, to keep them chilled. Sometimes, bottle wells replace these condiment cups and used to keep



served from a soda gun, these are often known as fountain drinks.

Automated Liquor Pouring System: This system eliminate the guesswork and the wait, making it easy for any server to mix a drink without a bartender presence. prepared mixes and juices.

Soda Gun/ Bar Gun: A soda gun/bar gun is a device used by bars to serve various types of carbonated and non carbonated beverages. It has the ability to serve any beverage that is some combination of syrup, water and carbon dioxide gas. This includes soft drinks, iced tea, carbonated water and plain water. When





1.7.2 Equipment for Washing And Waste Disposal

The following equipment comes under this category:

Three/Four Compartment Sink with Drain Boards: Generally it is a single piece of equipment; placed near bar station or between two stations. One compartment is meant for washing, one for rinsing and one for sanitizing. In a four compartment sink, the fourth compartment is used for waste dump by placing netting in the bottom to catch the debris.



Special Glass Washing Brushes: Glass brushes stand up in soapy water of the wash sink. In automatic machine, the bartender places a glass over the center brush and switch on the machine to make the bristles spin. With hand models the bartender twists the glass around and between the brushes to clean the inside and rim of the glass. Then the glass goes into the rinse sink, then the sanitizing sink and finally onto the drain board, upside down to air-dry.

Waste Dump: Every pickup station has a waste dump on the server's side of the bar. Cocktail servers returning with dirty glasses dump the debris here. Behind the bar there are removable trashcans.

Bottle Chute: Empty bottles are accumulated at the bar to return to the cellar/storeroom to exchange it for full bottles. In a bar with store below it, a bottle chute can convey these empties directly to the store. Also, a bottle chute conveys empty beer/soda/soft drink bottles to the basement below the bar for disposal.

1.7.3 Other Large Equipments

It includes the following:

Glass Froster: Generally, a glass froster is used to chill glasses for straight-up cocktail, frozen drinks and ice cream drinks. It is a freezer that chills glasses. Always dry glasses and mugs should be placed in the froster, otherwise a thin coating of ice will form on the glass. Alternatively, a refrigerator will frost a wet glass without making ice. Other alternative is to ice the glasses by hand with ice cubes just before pouring of drinks.



Automatic Glass Washer: For quality



cleanliness, labour saving and strict sanitation regulations and laws, automated glass-washers are used now a day. It is an alternative for manual washing. Back bar and an under bar rotary glass washer easily washes up to 400-500 glasses per hour, allowing bartender to spend more time with guests. It washes and rinses glasses with tap water, and sanitize with high

temperature/chemical rinse and finally blow dries them without water spots.

Frozen Drink Dispenser: Bars making a specialty frozen drinks may have a frozen drink dispenser. It soft freezes a large quantity of a premixed drinks e.g. margarita, daiquiri etc. to a slush. To serve an individual portion of drink, the glass is hold under the tap and the lever moved.

Dry Storage Cabinets: This storage forms the major part of the back bar. All the par stock of un-opened liquors bottles, house wine bottles,



napkins, bar towels, matches, straws, toothpicks, sitters and other no food/beverage items are stored here with locks.

Refrigerators: Back bar and under bar refrigerator hold supplies of various bottled/canned beer, bottle mixes, white wines, mixes and juices, fruits, egg, cream and condiments etc.

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Ice Machines: Every bar has an ice machine, as ice is very important commodity in any bar. Ice machine generally fitted in under bar or back bar cabinet.

Cash Registers: These days slim, quite and fast computerized register, also known as Electronic Cash Register (ECRs). Cash register acts as management control tools which generally record each bar sale. Hence it keeps record of the drinks sold and thus the stock record.

1.7.4 Small Bar Tools and Equipment

Generally all small bar tools and equipments are made of stainless steel (S.S) as it looks good, durable and can be cleaned easily. These equipments are used for, pouring, preparing, mixing and serving drinks.

1.7.4.1 SMALL WARES FOR POURING/MIXING

Mixing Glasses: It is a heavy glass like jug without a handle, but has a lip. Used for mixing clear drinks which do not contain juices or cream.

Peg Measures/Jiggers: A jigger is a measure of milliliters/fluid ounces, used to measure liquors for mixed drinks and cocktail. A double ended jigger has a small cup in one end



and the large on the other end and sizes for these cups are different.

Bar Shakers: It is a combination of a mixing glass and a stainless steel/plated silver container that fits of top, on an angle so that one edge is flush with the side of the glass. It is also known as Boston Shaker. The mix is strained using a Hawthorn strainer. Another type of standard shaker has three pieces made entirely of stainless steel or E.P.N.S. It has a

cone shaped base with the provision for

holding the strainer piece and a close fitting top or cap.

Strainers: There are many types, the most popular being the Hawthorne. This is a flat spoon shaped utensil with a spring coiled rounds its edge. It is used in conjunction with the cocktail shaker and mixing glass to hold back the ice after the drink is prepared.



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Bar Spoon: It is used with the mixing glass when stirring cocktails. The flat 'muddler' end is used for crushing sugar and mint, lemon and mint in certain drinks.

Ice Scooper: It is used for scooping up the ice from the ice bin. A standardized scooper makes to get right quantity of ice for ice scoop. Glasses should not be used for scooping ice.

Fruit Squeezer: It is a small tool used for squeezing citrus fruit juice. The juice is strained to remove the seeds before serving.



Funnels: It is used for transferring liquid from a large container into the smaller ones without spilling for bar use. Some funnels have a screen at the wide end to strain out pulps and seeds.

Glass Rimmer: It is used to rim a glass with salt or

sugar. It is made up of

three trays, one contains a sponge that is saturated with lime/lemon juice, the second contain a layer of salt and the third a layer of sugar. The glass rim is pressed on the sponge and then dipped in salt or sugar as per requirement.



1.7.4.2 Small Bar Tools and Equipments For Garnishing

Cutting Board: It is a small board having surface that will not dull the knife; rubber or plastic is prefer.

Bar Knife: Medium to large size stainless steel knife with sharp blade is used for preparing garnishing and cutting fruits in bar.

Relish Fork: It is a long, thin, two pronged fork meant to pick up cocktail onion, cherry and olive etc. from the narrow necked bottles.

Zester: It is special cutting tools which peel away the yellow/green part of the lemon/lime skin without including white under skin.

1.7.4.3 Small Bar Tools and Equipments For Serving

Bottle and Can Openers: Used for opening the bottles with crown or cutting the top side tin of can. Usually made of stainless steel as it is corrosion free and easy to maintain.

Corkscrew: To extract corks from wine bottles, different type of stainless steel corkscrews are available. The waiter's corkscrew (waiter's Friend) includes the corkscrew, a small knife to cut and remove the seal/foil of the bottle and a lever for easing out the cork.

Cork Extractor: It is made of stainless steel and used for extracting the broken cork.

Salvers: Round beverage serving trays of different sizes are used for carrying drinks and glassware and should be non-slippery.

Coaster: It is used for placing the prepared drinks on them.

Cocktail Sticks: Used for presenting garnishes with drinks and to pick up snacks with drinks.

Straws: It is a thin tube made of plastic used for sucking a drink through.

Glassware: For various kinds of beverages, different types of glassware are used.

1.8 BAR ORDER TICKET

The checking system in beverage service operation refers to order taking and billing methods. An efficient order taking system will ensure that every drink that goes out of the bar is properly recorded and billed. To control guest order and revenue of the beverage/food service operation; a document is used which is known as Bar Order Ticket (B.O.T)/Kitchen Order Ticket (K.O.T).

A Bar Order Ticket (B.O.T)/Kitchen Order Ticket (K.O.T) is a written document of a guest/guests orders, which is given to the bar/kitchen in exchange of any drink/dish or any other item picked up from the bar/kitchen. It helps the bar/kitchen to prepare the food and beverage, respectively and also assist the cashier/server to prepare the bill.

Purpose of B.O.T/K.O.T: For food and beverage orders an efficient system must operate to ensure the following:

• Provide a printed/written beverage/food order which helps in reminding the bartender/chef about the order.

- The correct drinks/dishes are served at the right table.
- The service provided is charged to the correct bill.
- A proper record is kept of all drinks/dishes issued from the bar/kitchen.
- Management is able to assess sales over a financial year and make comparison with budgeted.
- Helps server to remember any special instruction of the guests.
- Ensuring accountability of different level.
- Helps to avoid any confusion at the bar counter/food pick up counter.
- Provide proper control system.
- A post analysis will give an exact idea about the high-selling/non-selling dishes of menu.
- Establishes appropriate co-ordination between the servers and bartenders/chefs.

Depending on requirements of various food & beverage outlets different B.O.T/K.O.T systems are followed in hotels. Triplicate checking system is used in majority of medium and large establishments.

Triplicate Checking System: As the name suggests, the beverage/food check consists of three copies. To ensure proper control, the order taker must fill the following information in B.O.T/K.O.T:

- Name of the establishment/outlet
- Table number
- Number of covers
- Date
- Time
- Serial number
- Signature of server

The beverage/food order is written in triplicate without any corrections duly signed by the order taker. In case of in-house guest's, his/her room number should be mentioned in B.O.T/K.O.T.

The triplicate check:

- The top (first) copy of beverage/food order goes to the Bar/Kitchen (supply point) and is handed over to the bartender/aboyeur at the bar counter/hotplate.
- The duplicate (second) copy goes to the cashier who makes out the guest's bill referring to the K.O.T's serial number. In case of in-house guest, the name of guest and her/his room number should be entered on guest's bill.
- The triplicate (third) copy is retained by server at her/his station for reference.

For better control purpose, various colour coding is used for all three copies of B.O.T/K.O.T. In today scenario most of the food & beverage outlets are using computerized checking system and B.O.T/K.O.T are computer generated. The server punches the drink/dish either with the name or code and takes out two copies with all the



necessary information required. The system automatically puts the rate as fed in the system and as soon as quantity is entered, the amount is also automatically displayed. One copy of the same is given to the supply point (Bar/Kitchen) and the second copy is used by the server for reference during service and at the end of service, server gets the bill printed from the system. In the more advanced system, each server is given hand held device, the server enter the beverage/food order on device which gets printed in the supply point (bar/kitchen). Once the orders are ready, the server gats a signal on her/his device to collect the same from supply point. At the end of service, the bill is printed when required by guests.

1.9 BAR MENUS

The criteria used to develop a bar menu/wine list, is the same as those used when developing a food menu. Wine menus and drinks lists fall under the requirements of licensing regulations. The use of the bar menu / wine list, as selling tool cannot be

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emphasized enough. Guests eating in restaurants do not have to, and will not feel embarrassed if they do not purchase a drink. It is the service personnel ability to gain the confidence of guest; through her/his suggestive selling leads them to purchase a drink. Most beverages require less staff to produce and serve; and the ratio of profit from them is higher than food. Bar menu/wine lists should be specifically planned for the particular unit in which they are being sold as requirements vary outlet to outlet. An outlet themed to a country or region might offer both food and beverage (especially wines and beers) from that country or region. To uses a general wine menu may not be suitable but some popular brands should include to aid sales. In beverage service it is also important to serve various beverages on their correct serving temperature as well as traditional glassware. In hotels and restaurants; the sales of cocktails and wines are generally lower than budgeted for many reason such as overpricing, poor selling skills of the servers and bartenders.

Types of bar menus/wine Lists: There are various types of bar menus/wine lists used in hotels and restaurants. Generally they are grouped in four kinds i.e. wine menu, bar menus, room service beverages menus and special promotion menus.

Full wine menu/lists: This type of menu is used in up-market hotels or restaurant where the guest's average spending power would be high and they have time to consume their meals. All menus including full wine menu are difficult to plan. Particular wines must be included if it is a themed restaurant; it is the question of the selection of wines within the choices available based on the manager's experience and the market survey that make it difficult to keep a correct balance and restrict the choice. A full wine menu looks like a small book with many pages. Because of the cost, it is often the practice to have the menu contained within a leather cover and to be of a loose leaf form, so when required the individual pages can be updated and replaced. Generally the prices are high because of the quality product.

Restricted wine menus /lists: These kinds of menus are generally found in middle type outlets where the demand for full wine menu is very limited. The planning of this kind of menu is difficult but can manage by an analysis of past wine sales. This type of menu feature a few well known branded wines and the prices would be lesser than that of a full wine menu. These menus also include the sale of wine by glass and carafe.

Function/banquet menus: As name suggest these menus are meant for functions and banquets. The contents of the menu will depend on the type of function being done, but usually to offer selected wine with a varying price range to suit a wide range of guests and their taste. It will also include few popular brands wines and should price carefully.

Room service beverage menus/lists: The size and type of room service menus will depend on the level of room service offered as well as the standard of the hotel. In up-

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scale hotel the bar menu will be extensive and include drinks from full wine list and the bar list. In middle-scale unit the menu is likely to be small, being a combination of drinks from bar list and few wines from restricted wine list. These days most of the hotels provide mini-bar in each room stocked with limited quantity of popular drinks plus some basic drinks.

Special promotion beverage menus: In hotels various promotional menus are provide to promote after lunch and after dinner liqueurs by using attractive tent cards placed in bar or to the promotion of any specific beverage or cocktail. The suppliers also provide free advertising; promotional material and particular drink free or at very special promotional price.

1.10 SUMMARY

After studying this unit, the alcohol has been around the humans since thousands of years and consumption of alcohol was primarily for medicinal purposes. The old age taverns slowly got converted into modern day bars and pubs. All different types of bars have a specially designed bar counter which is normally based on the related requirements. Further, there are different types of ownerships involved in the beverage business. All business establishments are supposed to follow the legal framework outlined for doing this type of business. The bartender of the organization plays a pivotal role in doing the business for the organization.

1.11 GLOSSARY

- Back bar: it is located behind the front bar leaving adequate space for the bar tenders to work. It holds all kinds of alcoholic beverages in an attractive manner. Few equipments like storage cabinets, bottle cooler, etc are located in the back bar.
- Bar: a licensed retail business establishment that serves alcoholic beverages, such as beer, wine, liquor, cocktails, and other non alcoholic beverages along with snacks or full restaurant menu for consumption on premises.
- **Bar die:** It is the vertical structure supporting the top of the front bar which separates the customer's side from the bartender's work area.
- **BOT:** Bar Order Ticket
- Front bar: This is the portion of the bar where the customers place their order and receive it. This is actually the interaction point of a customer and the bar tender.
- Glass rail: It is a 3 inch width rail running along the bar tender's side for keeping the prepared drink glasses.
- Under bar: This is the area inside the bar counter, under the front bar, which holds the essential equipments and liquor supplies required for making drinks.

1.12 REFERENCES/BIBLIOGRAPHY

- Lilicrap, D. and Cousins, J.; Food and Beverage Service; Eighth Edition, Hodder Education, London, 2010.
- Davis, B., Lockwood, A. and Stone, S.; Food and Beverage Management; Third Edition, Elsevier, New Delhi, 2008.
- Bhatnagar, S., K.; Managing Food & Beverage Operations, First Edition, Frank Brothers & Co., New Delhi, 2009.
- Bagchi, S., N. and Sharma, A.; Text Book of Food & Beverage Service, Third Edition, Aman Publications, New Delhi, 2012
- Singaravelavan, R.; Food and Beverage Service, First Edition, Oxford University Press, New Delhi, 2012.
- Dhawan, V.; Food & Beverage Service; Second Edition, Frank Brothers & Co., New Delhi, 2009.
- George, B.; Food & Beverage Service and Management; First Edition, Jaico Publications, New Delhi, 2008.
- https://india.businessesforsale.com/indian/search/pubs-for-sale/articles/tenancies-leaseholds-and-other-routes-into-pub-ownership
- https://setupmyhotel.com/job-description-for-hotels/food-and-beverage-service-job-description/362-bartender.html

1.13 TERMINAL QUESTIONS

- 1. What are the various types of alcoholic beverages?
- 2. Write an explanatory note on the modern bar designs.
- 3. Explain in detail about various types of bars.
- 4. Enlist the various duties and responsibilities of a Bartender.

UNIT: 02 ALCOHOLIC BEVERAGES-WINES

STRUCTURE:

- 2.1 Introduction
- 2.2 Objectives
- 2.3 The Vine
 - 2.3.1 Pest and Diseases
 - 2.3.2 Prevention of Disease
 - 2.3.3 Principal Grapes of the World
 - 2.3.3.1 White Grapes
 - 2.3.3.2 Red Grapes
- 2.4 Manufacturing Process
 - 2.4.1 Viticulture
 - 2.4.2 Vilification or Process of Wine Making
 - 2.4.3 Factors Effecting Quality of Wine
 - 2.4.4 Contents of Wine
- 2.5 Classification of Wines
 - 2.5.1 By Color
 - 2.5.2 By Characteristic/Nature
 - 2.5.3 By Taste
 - 2.5.4 By Year
 - 2.5.5 By Body
 - 2.5.6 Unspecified Wines
- 2.6 Wine Storage
- 2.7 Service of Wines
 - 2.7.1 Serving Temperatures for Wines
 - 2.7.2 Service of White Wines/Rosé Wines
 - 2.7.3 Service of Red Wines
 - 2.7.4 Decanting Of Wines
 - 2.7.5 Service of Champagne/Sparkling Wines
 - 2.7.6 Service of Fortified Wines
 - 2.7.7 Service of Aromatic Wines
 - 2.7.8 Service of Wine by Glass
- 2.8 Major Indian and International Brands
- 2.9 Wine Producing Regions & Wines of France
- 2.10 Wine Producing Regions & Wines of Italy
- 2.11 Glasses and Equipment
- 2.12 Summary

- 2.13 Glossary
- 2.14 References/Bibliography
- 2.15 Terminal Questions

2.1 INTRODUCTION

Wine is considered the most interesting and complex subject of study of all the alcoholic beverages. This is due to many reasons like each country and region uses different types of grapes for wine production; implements own labeling laws; has different manufacturing processes; follows its own quality control; storage methods, follows several service procedures for various types of wines etc.

Wine is an alcoholic beverage obtained from the fermentedjuice of freshly gathered grapes. Fermentation is conducted according to local traditions and customs. It is prepared from both white and black grapes. There are many varieties of grapes produced and not all of them are used in the production of wine. The aroma, flavor and colour of the wine are largely influenced by the type of grapes used.

2.2 **OBJECTIVES**

After reading this unit the learner will be able to understand:

- The Vine plant, disease and prevention of disease
- Principal Grapes varieties of the World
- Wine Manufacturing Process
- Classification of Wines
- Storage of Wine
- Service of Wines
- Major Indian and International Brands
- Wine Producing Regions & Wines of France
- Wine Producing Regions & Wines of Italy
- Glasses and Equipment used in wine service

2.3 THE VINE

Nearly all the wines are made from one species of grape "VitisVinifera" (VEE-tissvih-NIFF-er-ah) of which there are many varieties. These grapes although all of the same species, vary not only in colour, but also in size and shape of bunch, sweetness and flavor and the quantity of wine they yield per acre of vineyard. "Virginia Creeper" is another variety used commonly over 5000 varieties of the particular species is available. The reproduction is usually from seeds but then there will be no guarantee on the quality, therefore seeds are not used. Usually grafting or cutting from identical plant is used. These are either planted straightaway or are grafted on the mother plant. Some of the best wines are produced from "VitisVinifera". It is a general rule that those vines which give wines of the highest quality have the smallest yield. Another important factor in influencing the character and quantity of wine is the nature of the soil. There are two types of grapes: Red/Black grapes, White grapes.

2.3.1 Pest and Diseases

Like all agricultural crops vine is subject to pests and diseases in the form of birds, insects, fungi, viruses and weeds.

Noble Rot: Noble rot also known as "Pouritture Noble" in French, "Edelfaule" in German, "Muffa" in Italian and sometimes simply "Botrytis Cineria" (boh-TRY-tiss sin-eh-RAY-ah). The Botrytis is derived from two words of Latin origin i.e. Botrytis – meaning bunch of grapes and Cineria – meaning ashes. This rot is welcome by the vine growers as it feeds on acids and sugar. Since rot consumes more of acids, therefore the percentage of sugar in grapes increases, which renders many chemical alterations and creates many new elements. It also secretes an antibody which inhibits fermentation resulting in very sweet wine; this rot is welcome therefore and also referred as "Welcome Rot". However this disease does not attack all the vines, it attacks only some clusters, some branches and thus a single vine may give us two completely different wines.

Grey Rot: Grey Rot sometimes known as grey mould and one of the most harmful of the fungal diseases that attacks vines. In this form of rot the Botrytis Cinera fungus rapidly spreads throughout the berry flesh and skins breaks down. Other fungi and bacteria then also invade the berry and the grapes become rotten. Badly infected grapes smell mouldy and red wines looks pale and grey brown.

Bitter Rot: Bitter rot is fungal disease of ripens grapes that are active in warm, humid conditions. It is found on damaged tissues and the bitter fruit flavor can be detected in the finished wine. The cause is the fungus "GreeneriaUvicola" and disease affects only damaged grapes and is easily controlled by most fungicides.

Black Rot: Black Rot is a fungal disease which is one of the most economically important diseases of vines in the north eastern U.S, Canada and parts of Europe and South America. The disease is caused by the fungus "GUIGNARDIA BIDWELLI" which attacks young shoots, leaves and berries. The disease spreads only in mild, wet weather and crop losses can be as high as 80%.

2.3.2 Prevention of Disease

The most well-known and favoured prevention for various diseases is by spraying Bordeaux mixture i.e. a mixture of Copper Sulphate, slaked lime and water.

2.3.3 Principal Grapes of the World

The various varieties of grapes are listed below in box under following sub-sections:

- White Grape Varieties
- Red Grape Varieties

3.3.3.1 WHITE GRAPES

NAME OF GRAPES	WHERE	GENERAL
	GROWN	CHARACTERISTICS OF THE WINE
CHARDONNAY (shahr-dun-NAY)	Worldwide	The most important & expensive white grape of Burgundy & Champagne. Aroma associated includes ripe melon and fresh pineapple.
CHENIN BLANC (SHEH-ninblahnk)	Loire, California and South Africa	Varity of styles: bone dry, medium sweet, intensely sweet, all with fairly high acidity making the wines very refreshing. Aroma association tends to be apples.
GEWÜRZTRAMINER (geh-VERTZ-tra-MEE- ner)	Alsace, Germany, New Zealand, U.S.A, Chile	One of the most pungent (Spicy) grapes, with aroma like rose petals, grapefruit and lychees. Wines are aromatic and perfumed and are occasionally off dry.
MUSCAT (mus-CAT)	Worldwide	Dry & mainly sweet, perfumed wines, smelling and testing of grapes and raisins and made in style from pale, light and floral to golden, sweet and orangey, or brown and rich. Often fortified, also principal grape for sparkling Asti.
PINOT BLANC	Alsace, Northern Italy, Germany &	Dry, neutral, fresh & fruity wines with the best having appley and

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(PEE-nohblahnk)	U.S.A	soft spicy and honeyed aromas.
PINOT GRIS (PEE-nohgris)	Alsace, Italy, U.S.A, Canada and New Zealand	Generally full bodied spicy white wines, often high in alcohol and low in acidity. Wines are crisp and neutral in Italy and aromatic and spicy in Alsace and elsewhere, with a hint of honey. Also used to make golden sweet wines.
RIESLING	Alsace, Germany, Australia, New Zealand & South Africa	Always well perfumed, with good aging potential. Aromas tend towards apricots and peaches. Styles can range from bright and tangy to intensely sweet.
SAUVIGNON BLANC (SOH-veen- yownblahnk)	Worldwide	Common aroma association with gooseberries, the wines are green, tangy, fresh and pungent.
SÉMILLON (say-mee-YAW)	Mainly Bordeaux & Australia, but also worldwide.	Lemony, waxy dry white, when oaked they can gain flavours of custard, nits and honey.
VIOGNIER (vee-own- YAY)	Rhônevalley,SouthernFrance,U.S.A & Australia	Rhône wines are aromatic with hints of apricots and spring flowers.

2.3.3.2 RED GRAPES

NAME OF GRAPES	WHERE GROWN	GENERAL CHARACTERSTICS OF THE WINE
CABERNET SAUVIGNON (cah-burr-NAY so- vee-NYOH)	Worldwide	Principle grape Bordeaux, especially in the Médoc. Bordeaux wines need time to mature. Generally benefits from being blended e.g. with merlot.
GAMAY (gah-MAY)	Beaujolais, Loire, Switzerland & U.S.A	The grape of Beaujolais, making light & juicy wines.

GRENACHE/ GARNACHA (greh-NOSH)	Southern France & Rhône, Spain, Australia & U.S.A	Makes strong, fruity but pale wine and fruity rosé wines. Important as part of blends. Characteristics of ripe strawberries, raspberries and hint of spice.
MERLOT (mehr-LOW)	Worldwide	Principal grape of Saint-Emilion and Pomerol in France. Aromas tend towards plums. The wines are low in harsh tannins and can be light and juicy, smooth and plumy.
NEBBIOLO (nehb-bee-OH-loh)	Italy	One of Italy's best red grapes, used in Barolo and Barbaresco. Fruity and perfumed wines with a mixture of tastes and flavours of black cherry.
PINOT NOIR (PEE-nohnwahr)	Worldwide	Principal grape of Burgundy. Aroma can be of strawberries, cherries and plums. Silky and strawberry like, simple wines have juicy fruit.
SHIRAZ/SYRAH (SHEER-oz/see- RAH)	Worldwide	Warm, spicy, peppery wines with aromas of raspberries; French Syrah tends to be smoky, herby and packed with red fruits. Australian Shiraz has sweeter black cherry fruit and often black chocolate aromas. Very fruity rosé wines are also made.
ZINFANDEL (Zin-fan-DELL) (Pimitivo in Italy)	California, Italy	Aromas of blackberries and spice.

CHECK YOUR PROGRESS-I

1. Write a note of Grape varieties.

2. Write a note on 'diseases of vine plant".

2.4 MANUFACTURING PROCESS

The process of wine making is discussed as under:

2.4.1 Viticulture

The science of cultivating of vine and producing grapes is called viticulture. This includes the cultivation of vines and carrying out various functions like Pluoughing or hoeing, pruning, spraying, weeding and harvesting etc. all at the proper time to produce good wine. While it is the variety of grapes that determines the basic flavor of wines it is the way in which the variety is grown that has the most profound effect on the quality of wine. **Vine Training**: The manner in which a vine is trained will guide the size, shape and height of the plant towards reaping maximum benefits from the local conditions of aspects and climate. Vines can be trained high to avoid ground frost or low to hug any heat that may be reflected by stony soils at night.

Viticulture Sprays: The use of sprays was once confined to protecting the vine against pests and diseases and for controlling weeds but now they have addition uses. Some sprays deliberately induce two disorder called Millerandage and Coulure to reduce the yield and increase quality.

Pruning: It is important for controlling quantity and quality. If quantity is reduced the quality increases.

Flowering: The most critical period of a vine's life is when it flowers. At this stage frost, hail, rain, wind and extreme temperatures could wipe out a crop before the growing season begins in earnest.

Harvest Timing: When to pick is one of the most important decision grower has to make each year. The decision when to pick will depend on grape variety, location of vineyards and styles of wine that has to be made. Whites wines generally benefits from the extra acidity of early harvested grapes, but they also need the varietal aroma and richness that can only be found in ripe grapes. Red wine requires relatively low acidity and profits from the increased colour, sugar and tannin content of later harvested grapes.

Transporting the Grapes: Ideally, the vineyard and winery should be as close as possible and the grapes transported in small enough plastic crates to prevent damage from their own weight as well. When grapes are dumped into huge containers and take hours to reach their destination is fine for red wines but currently less useful for white wines as it splits the grapes thereby encouraging oxidation and loss of aromatics.

Mechanical Harvesting: The advantages of mechanization are reduced labour costs and a quick harvest of the entire crop at optimum ripeness, but the vineyard has to be adapted to the machine chosen and the reception and fermentation facilities must be enlarge to cope with the larger amounts and quicker throughput which is costly. Disadvantages relate to the efficiency of the machinery and the quality of the wine. The main disadvantage is the inability to distinguish between a ripe and unripe and the healthy and unhealthy or rotten. From practical point of view this method is better for red wines.

2.4.2 Vinification Or Process Of Wine Making

The process involves the following various steps:

Harvesting: The date on which the grapes are picked or gathered varies according to the local customs, climate, region, location but as far as possible a spell of fine dry weather is chosen for harvesting.

Grading: After harvesting the grapes are taken to winery where they are graded as per specification. In the winery the rotten & unnecessary grapes are separated from the good ones.

Weighing: The grapes are weighed to determine the quantity required for fermentation.

Destalking or removal of stalks: The stalks are removed from the grapes by a destalking machine. Destalking is necessary if white wine is made but not if red wine is made.

Crushing/Pressing: The grapes are crushed or pressed according to the local tradition and custom either by feet or more conveniently by mechanical pressure to extract the juice called "MUST". The MUST is then put into large VATS for fermentation (the vats earlier were made of wood but now a day's stainless steel, concrete vats and glass lined containers are also used). At this stage if the red wines are to be made the skin of red grapes is allowed to remain in contact with the MUST till the fermentation gets over. In case of rosé wine the skin is allowed to remain in contact with the MUST for around 24 hours. In case of white wine the skin is separated from MUST as soon as possible.

Chaptalization/Sugaring: in case of insufficient alcoholic potential of the MUST, cane sugar is added to improve the alcoholic potential. The process of addition of cane sugar to the MUST to improve the alcohol potential is called CHAPTALIZATION, in Germany it is legal. The addition of sugar is due to some wine laws of most wine producing countries which specify the minimum alcoholic strength of wine. These laws may allow the wine makers to add a controlled amount of sugar to the MUST which is poor in the natural grape sugar.

Sulphuring: It is frequently necessary to add SO2 \uparrow fairly early in the fermentation process to prevent the air from oxidizing the must and converting the alcohol into vinegar. The air has bacteria principally 'Acetobactor' which is aerobic (it is alive in the presence of oxygen). These Acetobactor can convert alcohol into vinegar. SO2 \uparrow being hungry for Oxygen (O2 \uparrow) takes up the O2 \uparrow from the MUST to let the wine yeast which is anaerobic (able to work in the absence of O2 \uparrow) to convert the grape sugar into alcohol. SO2 \uparrow also forms a coating on the surface of the juice to prevent the air from entering the juice and thereby letting the wine yeast to do its work.

Fermentation: Fermentation is the action of the yeast on the sugar (grape juice) to convert it into alcohol and carbon dioxide. Yeast cells excrete enzymes that convert natural fruit sugars into almost equal quantities of alcohol and carbonic gas.



The fermentation process takes 2 days to 2 weeks according to the tradition of the house. The requirements of fermentation are as follows:

- To promote fermentation, the temperature must be between 18-30° C.
- Fermentation is controlled by adding selected wine yeast to the natural yeast BLOOM (The BLOOM comprises 1,00,000 wine yeast 10,000,000 wild yeast and other micro organisms. The size of Bloom is 1/5000th of an inch) in order to avoid a slow or incomplete fermentation.
- The duration of fermentation process varies from 2 days to 2 weeks according to the tradition of house.
- The process is stopped or speeds up according to type of wine required.

Cellaring and Second Pressing: Once the fermentation is complete the "Running Wine" or "VIN DE GOUTTE" is run off into cask for maturing. The casks are generally made of Oak wood and are treated with the hot steam or by the $SO2\uparrow$ to kill away Acetobacter. The filled cask are then placed into the cellar to mature a wine, this process is
commonly called Cellaring. The residue of pips and skins left in the fermenting vats is called "MARC" and is sent for further pressing and the resultant juice is called "VIN DE PRESSE" which is rich in Tannin. The winemaker may decide whether to add "Vin De Presse" to "Vin De Goutte".

Third Pressing: The pips and skins (MARC) is again pressed to extract the remaining juice, which is again fermented and distilled to produce "Eau-De-Vie-De-Marc". After 3rd Pressing nothing is left in MARC and the grape is completely utilized.

Racking: Draining the clear wine off its LEES or sediments into another vat or cask is known as Racking. In modern vinification, racking is usually conducted several times throughout the maturation period in vat or cask to make a 'Clear Wine', the wine gradually throws off less and less of a deposit. The wine must be separated from the dead Yeast which decomposes and gives an odd flavor to the wine. The dead Yeast settles at the bottom of the cask and constitute what is known as "LEES". The wine is carefully drawn off into new casks leaving behind the Lees or sediments.

Fining: This is process of clarifying the young wine during its stay in the cask and is done by adding various fining agents (such as Isinglass, Egg White, Bentinite and Gelatin etc.) to the wine which cause wine to coagulate and settle in the bottom of the cask. After fining the wine is racked once again.

Filtering: The wine is then passed through wine filters and filtered several times to produce a clear star-bright wine.

Refrigeration or Cold Stabilization: The young wine is pumped into a refrigeration unit to stabilize the wine.

Blending: This is an art that requires considerable experience, judgment and sensibility. It is a legitimate, natural and honest way of improving the quality of wine. Blending is done of wines from different vineyards and different years; this process ensures a consistent quality. Only Vintage wines are sold unblended.

Maturing of Wines: It is said that wine age in bottles and mature in the casks. Maturing takes place naturally by keeping the wine to rest in the wooden casks or barrels for one to more years according to the nature of

wine, to develop flavor, aroma and colour. During the maturations the wines pick up a soft and mellow character from the Oakwood. Age does not necessarily indicate the quality of wine, aging can improve wine up to a certain period, after which they decline in quality. Every wine has its natural life span, its youth and its power. Sometimes the wines are best drunk when young, while others are best only after a long period.

Bottling: The wine is subsequently bottled in clean and sterilized bottles. Wines are bottled in glass bottles and as a general rule white wines are bottled in green colored bottles, red wines in amber colored bottles and rosé wine in transparent bottles. The age at which the wine should be bottled varies according to the nature of wine. Generally Sparkling wines which must be drunk when going on before their freshness is lost should be bottled at an early stage, whereas the wines that requires long aging are not bottled until they are 3 years old e.g. Bordeaux and Burgundy wines.

Corking: The bottles are finally corked and sealed with Spanish wax. Corks are made from bark of tree called 'QUERCUS SUBER' and the best corks are produced in Portugal.

Pasteurization: This is a process of sterilizing the wine, so that the microorganism it contains is destroyed. The wine in bottles is immersed upright in double boiler with water, heated to temperatures between 180 - 190° F, the immersion is for 1-2 minutes only.

Labeling: Labeling is done according to wine.

Aging: Wine is aged in bottles and the period of aging may differ from house to house for example Bordeaux and Burgundy wines are aged for 3-4 years while Chablis is aged for 18 months.



2.4.3 Factors Affecting Quality of Wine

There are certain constant factors that affect the taste and quality of wine. The following are the main factors:

The Grapes, The soil, Climate, Micro Climate, Aspects, Viticulture, Vinification and storage.

THE GRAPES: Many varieties of grapes are used to produce wine. They are all based on the grafting method e.g. VitisVinifera onto American rootstock. The grape is made up of four parts:

The 'PULP' produces the grape juice known as Must in France and Mosto in Italy and Spain. The juices provide water content, fruit flavor, sugar and acids.

The 'SKIN' of Red/Black grape provides the colour and tannin in red wine on the outside of skin of grape.

The 'PIPS (Seeds)' contains bitter oils which are not crushed in vinification.

The 'STALK' is usually removed by destalking machine known as "EGRAPPOIR" before the grapes are crushed or pressed. If the stalks are not removed they will increase the tannin in wine.

THE SOIL: The soil has many attributes that can influences the vine grown in it, and hence the quality of both grapes and wine. Characteristic that should be present for the best soils for wine quality are:

- Moderately deep to deep soil.
- Fairly light textured often with gravel (mixture of rock) through much of the profile and at the surface.
- Free draining
- High inorganic matter to give soil friability (easily broken up/ crumbly) and adequate nutrient holding capacity, but not particularly high in organic matter.
- Overall, relatively infertile, supplying enough mineral elements for healthy vine growth but only enough nitrogen early in the season to promote moderate vegetative vigour (forcefulness)

The best wines come from soils that are very well drained and furnish a steady, but only moderate, water supply to the vines. Soil colour affects soil temperature and that of the air immediately above. Dark coloured soils or rocks absorb most of the incoming light energy and convert it to heat and so are warmer than light coloured soils and at night and during cloudy days, radiate more warmth back to the vines and bunches. This may be especially beneficial to red grapes which is general need more warmth than white grapes to ripen fully. Usually stony and rocky soil produces many of the world's great wines. Soils formed from chalk and lime stones are very favorable to good wines due to their relation to free drainage and the ability of the subsoil to hold water.

CLIMATE: Climate influences the styles of wine that an area can produce best. A wide range of styles is possible, ranging from the light, delicate table wines that are in general best produced in cool viticulture climate to the full bodied, sweet fortified wines that needs warm and very sunny climates.

TEMPERATURE: Average means temperature during ripening strongly influences potential wine styles. Within the range of 15-21° C the natural styles vary from light,

fresh and aromatic at the cooler end, to full bodied and full flavoured at the warmer end. Regions with the coolest ripening temperatures produce almost exclusively delicate white wines, those with warm ripening produces full bodied wines that might be either white or red. The less variable the ripening temperatures (both between night and day and from day to day), the better is likely to be the wine quality.

SUNLIGHT: Sunlight duration acts mainly by controlling sugar in grapes and therefore potential wine alcohol content at a given stage of physiological ripening. The availability of ample sunlight ensures a strong and constant sugar flow to the ripening grapes, which assures not only their sweetness and sufficient alcohol in the wine but also the colour, flavor and aroma compounds are not limited by a lack of sugar substrate for their formation. Timing of the sunlight is important; the most critical period for quality is around the start of ripening. Good conditions then assure an ample reserve of sugar in the vine, both for early conversion in the leaves and berries into the flavor and aroma compounds and so that sugar and flavor ripening of berries can continue under the cooler and less sunny conditions encountered later.

RAINFALL: For vines depending directly on rainfall, there needs to be enough rain at the right times to produce and promote adequate growth and to avoid severe water stress during ripening. Heavy rain during ripening can lead to temporary juice dilution and sometimes to incomplete ripening, especially if accompanied by lack of sunshine. Wet ripening periods commonly signal for poor vintages. Heavy rain close to maturity is especially damaging because it can cause berry splitting and subsequent fungal infection of bunches. Hail can be totally devastating.

RELATIVE HUMIDITY AND EVAPORATION: The entire world's acknowledged great table wines come from region with moderately high relative humidity and low evaporation. This is partly because of their lack of stress and through their usually restricted temperature variability; strong evaporative demands place the vines under water stress, which in extreme cases can cause leaf loss and substantial collapse of vine metabolism. Fruit damage often follows through excessive exposure to the overhead sun.

2.4.4 Contents of Wine

The contents of wine are mentioned below in tabular form:

Water	86%
Alcohol	10-12%
Glycerol	1%
Organic Acids	0.4%

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Carbohydrates (Unfermented Sugars)	0.2%
Minerals	0.2%
Tannins and Colour Pigments	0.1%
Acetic Acid	0.04%
Nitrogenous Matter	0.02%
Higher Alcohol (Propyl, Butyl etc.	0.01%
Traces of Vitamins	A bit

CHECK YOUR PROGRESS-II

1. Write a note of Wine making process.

2. Write a note on 'Contents of Wine".

2.5 CLASSIFICATION OF WINES

Wines may be classified on the following basis:

- By Color
- By Characteristic/Nature
- By Taste
- By Year
- By Body
- Unspecified Wines

2.5.1 By Color

Tables wines are natural wines and are the result of fermentation of grape juice with little or no addition of other substances and made without any diversions from natural processes. Table wines are about half the strength alcoholically of fortified wines. Their alcoholic strength varies from minimum of 8%-14%. It may be red, white or pink according to whether the juice was separated from skin before or after it was allowed to ferment and also according to colour of the grapes used.

White Wine: White wine is made from white grapes, in rare cases also made from red grapes.

Rosé Wine: Rose wine is made from red grapes, never a mixture of red and white grapes, as is commonly thought. The skins are kept in must for only a short time (12-36 Hours) to impart the light pink colour.

Red Wine: Red wine is always made from red grapes. The skins are retained in the must during all or part of fermentation to extract the pigment from grapes giving the wine red colour.

Blush Wine: It is a new style of rosé wine developed in California. Skins of black grapes are allowed to macerate with the must for a very short period which produces a very light pink colour wine. Red and white grapes are used together.

2.5.2 By Characteristic/Nature

Sparkling Wine: These are sparkling in appearance due to presence of CO2 gas and thus give off bubbles of gas. The best known is "champagne", it is produced by a complicated process. Sparkling wine is one where natural gas from fermentation is retained in the bottle or one where the wine has been artificially impregnated with gas. A customs definition of sparkling wine is a wine with wired cork. Champagne is blended wine; it is a blend of the product of many vintages and of both red and white grapes, predominantly red but champagne known as "Blanc De Blances" is made from white grapes. The chief grapes variety used for production of champagne is black and grey "pinots" and in the more ordinary district the "pinot meunier". The chardonnay predominates in the region of white grapes and chardonnay is the only white grapes from which champagne is made.

Aromatized Wine: Aromatized wine is a fortified wine in which herbs, roots, flowers, barks and other flavouring agents have been steeped in order to change the natural flavours of the wine. Aromatized wines includes both dry (French origin) and sweet (Italian) vermouths and the quinined or apéritif wines of the various countries such as DUBOUNET, LILLET, ST. RAPHAEL etc. Vermouth is the name given to those flavoured wines which in theory contained wormwood, which was first used in Germany in sixteenth century. Wormwood in German is wermuth which was pronounced "vermutt" hence origin of modern name. Some examples of vermouth are:

NOILLY PRAT – French – dry and light in flavor CINZANO BIANCO – Italy – sweeter version of white vermouth VOTRIX & DUVAL - England

Fortified Wines: These are the wines which are fortified with spirit like brandy during vinification when fermentation process is going on. If fortification is done in the beginning of fermentation the end product is sweet fortified wine. If fortification is towards the end of fermentation, the resultant wine is dry fortified wine. The addition of spirit increases the alcoholic content; therefore fortified wines have an alcoholic strength of 15% - 24% and also good keeping quality. Fortified wines may be sweet or dry, white, rosé or red. SHERRY, PORT, MADEIRA, MALAGA and MARSALA etc. are the best examples. "HEAVY WINE" is the official term for fortified wine; it is also used to describe wines which have too much alcohol and fruitiness.

House Wines: Any wine which is not too expensive or too cheap and can be used by any restaurant. No particular brand is branded as house wine.

2.5.3 By Taste

It may be classified in two categories:

Sweet Wine: Sweet wine produced by grapes having high sugar content, as in these wines even after fermentation a lot of sugar is still left, which is not consumed by yeast, the sugar left renders a very sweet wine.

Dry Wines: Dry wines produced by grapes with less sugar content and the fermentation is allowed to continue till all the sugar is almost or fully consumed.

2.5.4 By Year

Vintage Wines: The French word "vintage" means harvest, although any wine is a vintage wine as any year can be vintage year. However some year's climate is so good that the government in France declares it as vintage year for particular region. The various climatic factors for the year to be declared vintage years are: Sunshine, Temperature, right amount of snow etc., sugar balance in grapes and its concentration. On the labels of some bottles vintage year printed while on some not. When the vintage year is printed on the bottle it means the wine is from that particular year harvest when the crop was bumper. The bottles not having vintage year printed on them are generally blended to make wine good. Every year two types of wines are produced, one special vintage and other non-vintage. The vintage wines are bottled and sold while non-vintage are kept and improved. "Vintage Port" is wine of one year only, bottled after two years, but not ready for drinking until at least 10 years. "Late Bottled Vintage Port" is the wine of one year but bottled after about five years and ready for drinking immediately.

2.5.5 By Body

Light Bodied Wine: The term light refers to alcoholic content, texture and weight of wine, light also refers to sensation in mouth. These are not matured in casks rather left in stainless steel or glass vats before bottling. The alcoholic content should be less than 12% for example Mâcon Blanc, PouillyFuissé etc.

Medium Bodied Wine: These are wines which are round, fairly fat with good body, texture, flavor for example Rioja (Spanish), Hermitage (French) etc.

Full Bodied Wine: These wines have heavy body, texture and higher alcoholic content, rich taste with forceful flavor.

WHITE: Château Chalon, Australian Chardonnays RED: Zinfandels (Californian), Shiraz (Australian), Barbera (Italy), Maurud (Bulgarian)

2.5.6 Unspecified Wines

Varietal Wines: These are the wines of North America, which are labeled after the main grapes variety in the bottle. Single grape variety is used for making wine, best known examples are:

> RED: Zinfandel, Cabernet WHITE: Sultana, Sauvignon Vert, Cabernet

The top quality varietal wines of California are known as premium wines which can be compared with French A.O.C wines, 75% grape variety named on the label.

Generic Wines: Generic wines are those wines which are named after the long established European areas. Many North American and Australian wines are labeled as Claret, Burgundy, Chablis, Graves, Hock and even Champagne. A generic wine should pose the distinctive colour, flavor and aroma of its own.

Green Wines: It is a Portuguese wine comes from vine grown on the granitic soil in the province of Minho. These are acid wines of low alcoholic content, white, rosé and red wines are made. The most notable types (white wines) are from the 'ALVARINHO' and 'AZAL' grapes. These are quick maturing wines.

Organic Wines: Organic wines is a wine in which no chemical are added in the soil and good example of organic wines are made by 'Listel' in carmargne region of France.

2.6 WINE STORAGE

Wine storage can create some problems, particularly for quality wines. Red wine should be stored at 55°F (13°C) and white wines at 40°F (5°C). If cold storage cannot be provided for white wines, it should be stored with red wine and then cooled just before serving.

If wine bottles are cork stopper they should be stored on their side, as this will keep the cork moist and prevent air from making contract through the cork with the wine and possible spoiling it. With corked wines, avoid very dry storage, as this encourages corks to dry out, in other words humid atmosphere is desirable. Consider using proper wine racks that allow correct storage of bottles on their sides. Wine space is often wasted when proper storage racks are not used.

Fortified wines do not need to be stored on their sides, as they have had distilled spirit added to them, which helps prevent spoilage.

It is important to handle high quality aged red wines carefully, as they often develop sediment that will cloud the wine if it is roughly handled. Storing such bottles on their sides also allows any sediment to gather in such a way that pouring is made easier once bottles are opened. Even those quality wines that do improve in the bottle should be used before the quality begins to deteriorate. Red wines generally last longer than white wines.

In wine handling, one thing must be remembered that the wine is living thing and as such it is liable to have its illness and it can also recover its health. If it is left too long in the bottle, it will suffer from old age and will eventually die. The ideal conditions for storing wines are as follows:

- The wines should be laid down so that the cork is always in contact with the wine and does not dry out.
- The bottle should be completely still, there should be no vibration of the floor.
- Wines should be stored in darkness as the light will affect the colour and darken the white wines.
- Wines should never be subjected to any draught (current of air) or sudden change of temperature.

2.7 SERVICE OF WINES

The sommelier or wine waiter should be able to advise and suggest wines to the host as required. Immediately the food order has been taken the wine list should again be presented to the host so that he/she may order wine to accompany the meals that the guests have ordered. There are few key aspects to be taken into account when serving wines.

- The wine waiter must be able to describe the wines and their characteristics honestly bluffing should be avoided.
- Always serve the wine before the food. Avoid any delay in serving the food once the wine has been served.
- Serve wine at the correct temperature it is better to tell the guest that the wine is not at the right temperature for service rather than restoring to quick heating or cooling methods as these can damage the wine.
- Treat wine with respect and demonstrate a high level of technical skill, supported by the use of high quality service equipment.
- When pouring wine, the neck of the bottle should be over the glass but not resting on the rim. Care should be taken to avoid splashing the wine and when pouring is complete, the bottle should be twisted and raised as it is taken away. This prevents wine drops falling on the tablecloth or on a guest's clothes. Any drops on the rim of the bottle should be wiped away with a clean service cloth.

- Don't overfill glasses, fill glasses to the right level, usually to the widest part of the bowl or two thirds full, whichever is the lesser. Sparkling wine served in a flute is usually filled to about two thirds to three quarters of the glass.
- Avoiding unnecessary topping up it does not sell more wine and it often irritates guest. If wine is constantly topped up the guest may not notice how much they are consuming. In general it is preferable to ask the guest about topping up their wine.

2.7.1 Serving Temperatures for Wines

RED WINES: $15.5^{\circ}C - 18^{\circ}C$ (60°F - 65°F). Some young red wines may also be drunk cool at about $12.5^{\circ}C - 15.5^{\circ}C$ (55°F - 60°F). The lower temperature for young and fruity reds such as "BEAUJOLAIS NOUVEAU" and higher for quality mature reds.

WHITE WINES: $10 - 12.5^{\circ}$ C (50°F - 55°F). The lower temperature for the sweeter ones and the higher for the drier ones.

ROSÉ WINES: Rosé wines are bets between $45^{\circ}F - 55^{\circ}F$ (7°C - 13°C). The lower temperature for the sweeter ones and the higher for the drier ones.

CHAMPAGNE/SPARKLING WINES: Champagnes and other sparkling wines should



2.7.2 Service of White Wines/Rosé Wines

Obtain the wine from the bar/storage area. Check that the order is correct and that the wine is clear and properly temperature.

• Take to the table in an ice bucket and place the ice bucket in a stand.

- Present the bottle to the host with the label showing this allows him/her to check that the correct wine is to be served.
- Ensure the correct glasses are placed on the table for the wine to be served.
- Make sure a clean napkin is tied to the handle of the ice bucket this is used to wipe away condensation and water from the outside of the bottle before pouring the wine.
- Using a wine knife, cut the foil from all the way round, below or above the bottle rim at the top of the bottle. The top of the foil only is then removed and the top of the cork is wiped with the napkin.
- Remove the cork using a wine opener. Smell the cork in case the wine is "corked"
- If the wine is a high quality vintage wine then the cork would generally be placed on a side plate at the head of the host's cover. This cork should have the name and year of the wine printed on it.
- Wipe the inside of the neck of the bottle with the napkin.
- Wipe the bottle dry.
- Hold the bottle for pouring so that the label may be seen. Use the service cloth in the other hand, folded, to catch any drips from the neck of the bottle.
- Give a taste of the wine to the host, pouring from the right hand side. He/she should acknowledge that the wine is suitable i.e. that it has the correct taste, bouquets and temperature.
- Serve ladies first, then gentlemen and the host last, always commencing from the host's right.
- Fill each glass two thirds full or to the widest part of bowl whichever is the lower. This leaves room for an appreciation of the bouquet.
- Replace the remaining wine in the wine bucket and refill the glasses when necessary.
- If a fresh bottle is required, then fresh glasses should be placed upon the table and the host asked to taste the new wine before it is served.
- On finishing pouring a glass of wine twist the neck of the bottle and raise it at the same time to prevent drops from falling on the tablecloth

2.7.3 Service of Red Wines

The basic procedure for the opening and serving of red wines is the same as for white wines. If the red wine to be opened is young the bottle may stand on an under plate or coaster on the table and be opened from this position. This adds to the overall presentation of the bottle and may prevent drips of red wine from staining the tablecloth. Although there is no technical reason why red wines should be served with the bottle in a wine basket or wine cradle, these are used in a number of establishments for display/presentation purposes. They also assist in retaining the sediments, found in some older red wines in the base of the bottle.

The cork should be removed from the bottle of red wine as early as possible so that the wine may attain room temperature naturally. If the wine is of age and or is likely to have heavy sediments, then the wine should be decanted. It should be placed in a wine basket and first presented to the guest. Placing the bottle in a wine basket helps to keep the bottle as horizontal as possible, comparable to its storage position in a cellar in order to prevent the sediments from being shaken up. The wine should then be decanted.

2.7.4 Decanting of Wines

Certain old red wines, notably "Vintage Port" throw sediments or crust in the bottle during maturation. Owing to (caused by) there crust or sediments these wines must be decanted before serving. Decanting can be defined as "to separate the wine from any sediment in the bottle by pouring gently into a glass container or decanter is called decantation". Decanting is the movement of wine from its original container to a fresh glass container leaving the sediment behind.

There is a trend nowadays to decant younger red wines, simply because exposure to air improves the bouquet and softens and mellows the wine. Decanting also enhances the appearance of the wine, especially when presented in a fine wine decanter. However the permission of the host should always be sought before decanting a wine in the restaurant.

EQUIPMENT USED

- A clean dry 'Decanter'
- A small clean 'Funnels'
- A good 'Cork Screw'
- A clean 'Napkin'
- A 'Candle- Light'

PROCEDURE:

• Extracts the cork carefully. The cork may disintegrate (Separate into component parts) because of long contact with alcohol, so be careful.

- Place a single point light behind the shoulder of the bottle, a candle if decanting in front of guests, but a torch, light bulb or any light source will do.
- Carefully pour the wine into an absolutely clean decanter. The light will reveal the first sign of sediments entering the neck of the bottle.
- As soon as sediment is seen, stop pouring into the decanter but continue pouring into a glass. The latter wine, when it settles, can be used as a taster or for sauces in the kitchen.
- The wine should always be checked to make sure that it is clear before being presented at the table for service.
- If the wine is not clear after decanting then it should be decanted again into a fresh decanter, but this time using a wine funnel which has a piece of fine muslin in the mouth of the funnel. If the wine is still not clear it should not be served and a new bottle of the wine selected.

Very old red wine can break up with too much exposure to air. Such wines can be left to stand for a few days to allow the sediment to settle in the bottom of the bottle. The bottle is then opened before the meal is served and the wine is poured very carefully straight into the glass, with the bottle held in the pouring position as each glass is approached. This prevents the wine slopping back to disturb the sediments. Sufficient glasses should be available to finish the bottle, thereby ensuring that the wine does not re-mingle with its sediment during the pouring process.

2.7.5 Service of Champagne/Sparkling Wines

The same method is used for opening all sparkling wines. The wine should be served well chilled in order to obtain the full effect of the secondary fermentation in the bottle, namely effervescence and bouquet. The pressure in a champagne bottle due to its maturing and secondary fermentation will be about 5 Kg per centimeter square. Great care must therefore be taken not to shake the bottle otherwise the pressure will build up and could cause an accident.

- After presenting the bottle to the host the wine is ready for opening.
- The neck of the bottle should be kept pointed towards a safe area in the restaurant during the opening process; in order to avoid any accidents to guests should the cork be released suddenly.
- The thumb should be held over the cork with remainder of the hand holding the neck of the bottle.

- The foil around the top of the cork is separated from the foil around the neck of the bottle by pulling on the tab on the foil or by using a wine knife to cut it. The foil is not removed.
- The wine cage is carefully loosened, but not removed.
- Then holding the cork and the cage in one hand, the bottom of the bottle should be twisted with the other hand to slowly release the cork.

Sparkling wine should be served in flutes or tulip shaped glasses, from the right hand side of each guest. It is also worth considering lifting the glass from the table so as to pour the wine more easily and quickly, and to reduce the frothing of the wine.

2.7.6 Service of Fortified Wines

In the respective glasses which measures about 60 ml dry light Sherry, Port are served somewhat chilled around 8-10°C, whereas full bodied dark and sweet are served at room temperature. There are various shapes of Sherry and Port glasses, more of variety than need.

2.7.7 Service of Aromatic Wines

- By taking neat slightly chilled in Port or Sherry glass.
- By mixing with aerated drinks like soda e.g. Dubonnet with soda in high ball.
- Taken as Frappé with shaved ice in Champagne saucer.

2.7.8 Service of Wine By Glass

Many establishments offer a range of wines for sale by glass. Wines are mostly offered in 125 ml or 175 ml measures. With the exception of sparkling wine, it is often better to serve the wine in a glass larger than the measure. This allows the aroma to develop in the glass and the wine to be better appreciated. Many establishments now also pour a measure of wine into a small carafe for the service of wine by the glass. This then allows the guest to pour into their glass the wine as required.

EQUIPMENT FOR WINE SERVICE:

- White wine glass for white wine.
- Claret for red wine glass.
- Port glass for Port wine.
- Sherry glass for sherry.

- Tulip/Flute/ Champagne saucer glass for sparkling wine.
- High ball for Aromatized wine.
- Wine bottle opener.
- Wine salver
- Quarter plate
- Waiter's cloth / napkin
- Wine / Champagne chiller
- Wine cradle for red wines
- Decanter for very old red wines.
- Candle for very old red wines.
- Wine thermometer

2.8 MAJOR INDIAN AND INTERNATIONAL BRANDS

Indian Brands:

Red Wine	White Wine	Rosé Wine	Sparkling Wine
Syrah	Sailo Rio	Shiraz rosé	Sula Brut
Galaxy	Et Tu Brutus	Maderas rosé	Sula Seco
ValletSailo	Mark Antony	Sula Blush	
		Zinfandel	
La Reserve	Sauvignon Blanc		
Cabernet Shiraz	Dia White		
Satori Merlot	Madera White		

Some Famous Indian Wine Makers:

Indage(Narayangaon ,Pune) Grover Vineyards (Bangalore) Sula (Maharashtra) Renaissance Wines (Nashik) ND Wines (Nashik)

Regions	Poplar Wines	
Bordeaux: Probably the	Château Lafite-Rothschild – Pauillac (Red)	
most prestigious wine-	Château La Tour-Pomerol (Red)	
region.	Château Pape-Clément (red)	
	Château Olivier (white)	
	Château Pétrus – (Red)	
Burgundy	Chambertin (Red)	
	Le Corton (Red)	
	Les Gréves (Red)	
	Charlemagne (White)	
	Pouilly-Fuissé(POOH-YEE FWEE-SAY)	
	Beaujolais	
Côtes-Du-Rhône	Châteauneuf-Du-Pape(shah-toh-nuff-dew-POP), Côte	
	Rôtie (COAT ROE-TEE), Hermitage (AIR-MEE-	
	TAHZH),	
Val De Loire	Anjou	
	Muscadet (White)	
	PouillyFumé (White)	
	Vouvray (Sparkling)	
	Sancerre(SAHN-SEHK),	
Alsace	Riesling, GEWÖRZTRAMINER (geh-VERTZ-tra-	
Jura	Vin Jaune (Yellow wine) Vin de Paille (Straw	
9414	Wine).	
Champagne(sham-peyn)	MOËT & CHANDON – CUVÉE DOM PÉRIGNON	
	– BRUT (Most prestigious Champagne)	
	Moët &chandon – Brut Impérial – Vintage	
	Laurent Perrier – Cuvée Brut – Vintage	
	Gosset – Grande Réserve Brut- non vintage	

2.9 WINE PRODUCING REGIONS & WINES OF FRANCE

2.10 WINE PRODUCING REGIONS & WINES OF ITALY

Wine regions: LOMBARDY, TUSCANY, VENETO, PIEDMONT, SICILY

White	Red	Sparkling
Est! Est!! Est!!!	Bardolino	Asti Spumante
Falerno	Barolo	Lacrima Christi
Capri	Boca	

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Etna	Fara	
Lugana	Barbaresco	
Galestro	Soave	

Wines of Spain:

Red	White
Marques de Riscal Gran Reserva	La Cana Albarino
Torres Mas La Plana	Poema White Blend
Vega Sicilia Unico	BurgansAlbarino
Dominio de Pingus	ShayaVerdejo
Clos Erasmus	Protocolo Blanco
Clos Mogado	

Wines of Portugal:

Port Wines	Red	White
Churchill's Crusted	Campolargo	Biomanz
Port		
Quinta Do Naval	Casca Wines	Afros
Black		
Dow's White Port	Quinta Do Noval	FilipaPato
	Julia Kemper	Quinta Da Pellada

2.11 GLASSES AND EQUIPMENT

A wine glass is a type of glass that is used to drink and taste wine. Most wine glasses are stemware and composed of three parts: the bowl, stem and foot. In some glass designs the opening of the glass is narrower than the widest part of the bowl (to concentrate the aroma), others are more conical. In addition stem less wine glasses (tumblers) are available in a variety of sizes and shapes and are typically used more casually than their traditional counterparts. Some common types of wine glasses are as follows:

Red Wine Glasses: Glasses for red wine are characterized by their rounder, wider bowl which increases the rate of oxidation. As oxygen from the air chemically interacts with the wine, flavor and aroma and enhanced them. This process of oxidation is generally considered more compatible with red wines, whose complex flavours are said to be smoothed out after being exposed to air. Red wine glasses can have particular styles of their own such as: Bordeaux glass, Burgundy glass etc.



White Wine Glasses: White wine glasses very enormously in size and shape, from the delicately tapered Champagne Flute, to the widest and shallow glasses used to drink Chardonnay. Different shaped glasses are used to accentuate the unique characteristics of different styles of wine. To preserve a crisp, clean flavor, many white wine glasses will have a smaller mouth, which reduces surface area and in turn, the rate of oxidation.

Champagne Flutes: Champagne flutes are characterized by a long stem with a tall, narrow bowl on top. The shape is designed to keep sparkling wine desirable during its consumption. Just as with wine glasses, the flute is designed to be held by the stem to help prevent the heat from the hand from warming the wine inside. The bowl itself is designed in a manner to help retain the signature carbonation in the beverage. This is achieved by reducing the surface area at the opening of the bowl. Additionally the flute design adds to the aesthetic appeal of champagne, allowing the bubbles to travel further due to the narrow design, giving a more pleasant visual appeal.

Sherry Glass: A sherry glass is generally used for serving aromatic alcoholic beverages, such as sherry, port, aperitifs, and liqueurs, and layered shooters. The *copita*, with its aroma-enhancing narrow taper, is a type of sherry glass.

Port Glass: Port glassestraditionally hold a smaller amount of liquid than wine glasses, because Port has a much richer flavour and a higher percentage of alcohol.

Other Beverage service Equipment's:



CHECK YOUR PROGRESS-III

1. Explain the process of serving red wine.

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2. Write a note on 'Types of Bar".

2.12 SUMMARY

Wine is an alcoholic beverage made from fermentation of grapes. There are several types of grapes used in making of wine. *Wine is an alcoholic beverage obtained from the fermentedjuice of freshly gathered grapes. Fermentation is conducted according to local traditions and customs.* It is prepared from both white and black grapes. There are many varieties of grapes produced and not all of them are used in the production of wine. The aroma, flavor and colour of the wine are largely influenced by the type of grapes used.

2.13 GLOSSARY

Aging: Wine is aged in bottles and the period of aging may differ from house to house for example Bordeaux and Burgundy wines are aged for 3-4 years while Chablis is aged for 18 months.

Aromatized Wine: Aromatized wine is a fortified wine in which herbs, roots, flowers, barks and other flavouring agents have been steeped in order to change the natural flavours of the wine.

Bitter Rot: Bitter rot is fungal disease of ripens grapes that are active in warm, humid conditions. It is found on damaged tissues and the bitter fruit flavor can be detected in the finished wine.

Black Rot: Black Rot is a fungal disease which is one of the most economically important diseases of vines in the north eastern U.S, Canada and parts of Europe and South America.

Blending: This is an art that requires considerable experience, judgment and sensibility. It is a legitimate, natural and honest way of improving the quality of wine.

Blush Wine: It is a new style of rosé wine developed in California. Skins of black grapes are allowed to macerate with the must for a very short period which produces a very light pink colour wine. Red and white grapes are used together.

Bottling: The wine is subsequently bottled in clean and sterilized bottles.

Cellaring and Second Pressing: Once the fermentation is complete the "Running Wine" or "VIN DE GOUTTE" is run off into cask for maturing.

Chaptalization/Sugaring: in case of insufficient alcoholic potential of the MUST, cane sugar is added to improve the alcoholic potential. The process of addition of cane sugar to the MUST to improve the alcohol potential is called CHAPTALIZATION, in Germany it is legal.

Corking: The bottles are finally corked and sealed with Spanish wax. Corks are made from bark of tree called 'QUERCUS SUBER' and the best corks are produced in Portugal.

Crushing/Pressing: The grapes are crushed or pressed according to the local tradition and custom either by feet or more conveniently by mechanical pressure to extract the juice called "MUST".

Destalking or removal of stalks: The stalks are removed from the grapes by a destalking machine. Destalking is necessary if white wine is made but not if red wine is made.

Dry Wines: Dry wines produced by grapes with less sugar content and the fermentation is allowed to continue till all the sugar is almost or fully consumed.

Dry Wines: Dry wines produced by grapes with less sugar content and the fermentation is allowed to continue till all the sugar is almost or fully consumed.

Fermentation: Fermentation is the action of the yeast on the sugar (grape juice) to convert it into alcohol and carbon dioxide. Yeast cells excrete enzymes that convert natural fruit sugars into almost equal quantities of alcohol and carbonic gas.

Filtering: The wine is then passed through wine filters and filtered several times to produce a clear star-bright wine.

Fining: This is process of clarifying the young wine during its stay in the cask and is done by adding various fining agents (such as Isinglass, Egg White, Bentinite and Gelatin etc.) to the wine which cause wine to coagulate and settle in the bottom of the cask. After fining the wine is racked once again.

Flowering: The most critical period of a vine's life is when it flowers. At this stage frost, hail, rain, wind and extreme temperatures could wipe out a crop before the growing season begins in earnest.

Fortified Wines: These are the wines which are fortified with spirit like brandy during vinification when fermentation process is going on. If fortification is done in the beginning of fermentation the end product is sweet fortified wine. If fortification is towards the end of fermentation, the resultant wine is dry fortified wine.

Full Bodied Wine: These wines have heavy body, texture and higher alcoholic content, rich taste with forceful flavor.

Generic Wines: Generic wines are those wines which are named after the long established European areas. Many North American and Australian wines are labeled as Claret, Burgundy, Chablis, Graves, Hock and even Champagne.

Grading: After harvesting the grapes are taken to winery where they are graded as per specification. In the winery the rotten & unnecessary grapes are separated from the good ones.

Green Wines: It is a Portuguese wine comes from vine grown on the granitic soil in the province of Minho. These are acid wines of low alcoholic content, white, rosé and red wines are made. The most notable types (white wines) are from the 'ALVARINHO' and 'AZAL' grapes. These are quick maturing wines.

Grey Rot: Grey Rot sometimes known as grey mould and one of the most harmful of the fungal diseases that attacks vines. In this form of rot the Botrytis Cinera fungus rapidly spreads throughout the berry flesh and skins breaks down.

Harvest Timing: When to pick is one of the most important decision grower has to make each year.

Harvesting: The date on which the grapes are picked or gathered varies according to the local customs, climate, region, location but as far as possible a spell of fine dry weather is chosen for harvesting.

House Wines: Any wine which is not too expensive or too cheap and can be used by any restaurant. No particular brand is branded as house wine.

Labeling: Labeling is done according to wine.

Light Bodied Wine: The term light refers to alcoholic content, texture and weight of wine, light also refers to sensation in mouth. These are not matured in casks rather left in stainless steel or glass vats before bottling. The alcoholic content should be less than 12% for example Mâcon Blanc, PouillyFuissé etc.

Maturing of Wines: It is said that wine age in bottles and mature in the casks. Maturing takes place naturally by keeping the wine to rest in the wooden casks or barrels for one to more years according to the nature of wine, to develop flavor, aroma and colour.

Mechanical Harvesting: The advantages of mechanization are reduced labour costs and a quick harvest of the entire crop at optimum ripeness, but the vineyard has to be adapted to the machine chosen and the reception and fermentation facilities must be enlarge to cope with the larger amounts and quicker throughput which is costly.

Medium Bodied Wine: These are wines which are round, fairly fat with good body, texture, flavor for example Rioja (Spanish), Hermitage (French) etc.

Noble Rot: Noble rot also known as "Pouritture Noble" in French, "Edelfaule" in German, "Muffa" in Italian and sometimes simply "Botrytis Cineria" (boh-TRY-tiss sineh-RAY-ah). The Botrytis is derived from two words of Latin origin i.e. Botrytis – meaning bunch of grapes and Cineria – meaning ashes.

Organic Wines: Organic wines is a wine in which no chemical are added in the soil and good example of organic wines are made by 'Listel' in carmargne region of France.

Pasteurization: This is a process of sterilizing the wine, so that the microorganism it contains is destroyed. The wine in bottles is immersed upright in double boiler with water, heated to temperatures between $180 - 190^{\circ}$ F, the immersion is for 1-2 minutes only.

Pruning: It is important for controlling quantity and quality. If quantity is reduced the quality increases.

Racking: Draining the clear wine off its LEES or sediments into another vat or cask is known as Racking. In modern vinification, racking is usually conducted several times throughout the maturation period in vat or cask to make a 'Clear Wine', the wine gradually throws off less and less of a deposit.

Red Wine: Red wine is always made from red grapes. The skins are retained in the must during all or part of fermentation to extract the pigment from grapes giving the wine red colour.

Refrigeration or Cold Stabilization: The young wine is pumped into a refrigeration unit to stabilize the wine.

Rosé Wine: Rose wine is made from red grapes, never a mixture of red and white grapes, as is commonly thought. The skins are kept in must for only a short time (12-36 Hours) to impart the light pink colour.

Sparkling Wine: These are sparkling in appearance due to presence of CO2 gas and thus give off bubbles of gas. The best known is "champagne", it is produced by a complicated process. Sparkling wine is one where natural gas from fermentation is retained in the bottle or one where the wine has been artificially impregnated with gas.

Sulphuring: It is frequently necessary to add SO2 \uparrow fairly early in the fermentation process to prevent the air from oxidizing the must and converting the alcohol into vinegar.

Sweet Wine: Sweet wine produced by grapes having high sugar content, as in these wines even after fermentation a lot of sugar is still left, which is not consumed by yeast, the sugar left renders a very sweet wine.

Varietal Wines: These are the wines of North America, which are labeled after the main grapes variety in the bottle. Single grape variety is used for making wine, best known examples are:

Vine Training: The manner in which a vine is trained will guide the size, shape and height of the plant towards reaping maximum benefits from the local conditions of aspects and climate. Vines can be trained high to avoid ground frost or low to hug any heat that may be reflected by stony soils at night.

Vintage Wines: The French word "vintage" means harvest, although any wine is a vintage wine as any year can be vintage year. However some year's climate is so good that the government in France declares it as vintage year for particular region.

Viticulture Sprays: The use of sprays was once confined to protecting the vine against pests and diseases and for controlling weeds but now they have addition uses. Some sprays deliberately induce two disorder called Millerandage and Coulure to reduce the yield and increase quality.

Weighing: The grapes are weighed to determine the quantity required for fermentation.

White Wine: White wine is made from white grapes, in rare cases also made from red grapes.

2.14 REFERENCES/BIBLIOGRAPHY

- Lilicrap, D. and Cousins, J.; Food and Beverage Service; Eighth Edition, Hodder Education, London, 2010.
- Davis, B., Lockwood, A. and Stone, S.; Food and Beverage Management; Third Edition, Elsevier, New Delhi, 2008.
- Bhatnagar, S., K.; Managing Food & Beverage Operations, First Edition, Frank Brothers & Co., New Delhi, 2009.
- Bagchi, S., N. and Sharma, A.; Text Book of Food & Beverage Service, Third Edition, Aman Publications, New Delhi, 2012
- Singaravelavan, R.; Food and Beverage Service, First Edition, Oxford University Press, New Delhi, 2012.
- Dhawan, V.; Food & Beverage Service; Second Edition, Frank Brothers & Co., New Delhi, 2009.
- George, B.; Food & Beverage Service and Management; First Edition, Jaico Publications, New Delhi, 2008.
- https://india.businessesforsale.com/indian/search/pubs-for-sale/articles/tenancies-leaseholds-and-other-routes-into-pub-ownership
- https://setupmyhotel.com/job-description-for-hotels/food-and-beverage-service-job-description/362-bartender.html

2.15 TERMINAL QUESTIONS

- 1. Define wine?
- 2. List the 10 white grapes varieties.
- 3. List 10 red grapes varieties.
- 4. What factors affects the quality of wine? Explain each.
- 5. Describe the procedure of making wine with suitable illustrations.
- 6. Classify wine on the basis of colour of wine?
- 7. Explain the service procedure of rose wine?
- 8. List 10 Indian Brands of wine.
- 9. List 10 international brands of wine including red, white and rose wines.
- 10. Write a note of "Wine Glasses'.

UNIT: 03 BEER

STRUCTURE:

- 3.1 Introduction
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 - 3.3.2 Water
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 - 3.3.4 Sugar
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- 3.7 Storage of Beer
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- 3.9 Beer Glassware
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- 3.11 Other Fermented & Brewed Beverages: Sake, Cider, Perry
 - 3.11.1 Sake
 - 3.11.2 Cider
 - 3.11.3 Perry
 - 3.11.4 Alcohol free Wine
- 3.12 Summary
- 3.13 Glossary
- 3.14 References/Bibliography
- 3.15 Terminal Questions

3.1 INTRODUCTION

Beer originates from the Anglo Saxon word "Baere" mean barley. Beer is one of the oldest and most widely consumed alcoholic beverage in the world, and the third most common beverage overall after water and tea. Beer is brewed from cereal grains- most commonly from malted barley, although corn (maize), wheat, oats and rice are also used.

Throughout history, wherever cereal grains were grown, people made fermented beverage from them. They used barley in Egypt, wheat in Mesopotamia (today's Iraq), rice in Asia, maize (corn) in U.S.A, and sorghum and millet in other parts of Africa. Today brewing beer is a major industry worldwide.

Making beer is believed to be over 10,000 years old, ancient Egyptian made beer about 6000 years ago and different civilizations made beer from many cereals. Germanic tribes were brewing in the first century AD and in Roman Britain beer (ale) was the national drink. Rich and poor both made beer and preferred beer to contaminated water. Early brewers used simple methods and fermented beer for only short time – one to two days maximum. By around 1100 AD, techniques of brewing had become very much sophisticated.

Introduction of Hops in 15th century in brewing gave distinctive bitter taste to the beer and also increased shelve life of beer. The first beer brewed with hops in England was bitter ale. During industrial revolution in the mid 1800s, beer makers invented a method to dry malt in huge rotating heated drums that made the grain lighter in colour and made a pale, golden beer. In the late 19th century with the introduction of compressed gas refrigeration made fermentation possible at any time in any season and climatic conditions. With time as technology developed few breweries start mass production of beer with latest brewing equipments to produce million barrels of beer per year commercially.

Recently brewers started the older techniques of beer making such as making beer in small quantity batches eliminating filtration and pasteurization to retain flavor and

character imparted by the yeast during fermentation. Brewpubs and Microbreweries produce high quality beer in smaller quantity and are start functioning in India as well.

Beer is an alcoholic beverage made by brewing and fermented malted barley and other cereals, with hop added to give flavor and stabilize it.

3.2 OBJECTIVES

After reading this unit the learner will be able to:

- understand the various ingredients used in making of beer
- understand the procedure of making beer
- tell about various types of beer
- tell about faults in beer
- understand about various other types of fermented beverages

3.3 INGREDIENTS USED IN BEER PRODUCTION

The following ingredients are used in beer production i.e. grain (Malt), water, hops, sugar, yeast and fining agents:

- Grain
- Water
- Hops
- Sugar
- Yeast
- Finings

3.3.1 Grain (Malt)

For hundreds of years the grain traditionally used for beer making is barley and its different varieties to make different beers. But beer can also be made from other grains such as wheat, millet, rice and corn and grain extracts may be used in some cheaper beers.



Barley however provides the best beer.

3.3.2 Water

Water constitutes about 92-94% of beer volume. To most brewers water quality is therefore utmost importance. In fact some beers are marketed with the emphasis on the quality of their water e.g. "Burton on Trent" in United Kingdom is famous for its natural waterfall and has a high percentage of gypsum. The nature of particular water is determined by salts dissolve in it, this is turn influences the character of the beer. Water with high calcium content is hard and with low content is soft.

3.3.3 Hops



It is a female cluster of flower of the nettle family with the scientific name of Humulus Lupulus, grown in Worcestershire, Kent and Sussex. The flower from the female hop vine is most widely used in brewing and is like a small pine cone and has very soft leaves. Hops are grown on strings to a height of three meter and above. Its cone like blossoms contain bitter substance called lupalin which has resins and tannins. The resins

and oils contribute aroma and the tannin helps clarify, stabilize and preserve the beer. The resin glands of the flower of the hop have alpha acid and are the source of bitterness. The flower cones are dried and packed in large sacks.

3.3.4 Sugar

Sugar acts as a catalyst for the fermentation. Refined or graded sugars are added for fermentation and to add sweetness.

3.3.5 Yeast

To induce fermentation process yeast is essential, which is a living organism (fungus). In fermentation process, the yeast converts the sugar into ethyl alcohol and release carbon dioxide gas. Brewers choose yeast

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strains based on which style of beer is being made. The two main classification of beer yeast are: Saccharomyces Cerevisiae (Top fermenting for Ale) and Saccharomyces Carlsbergensis (Bottom fermenting for Lager). Each yeast's species produces a distinct type of beer.

3.3.6 Finings

Fining are substances that are usually added at or near the completion of the processing of brewing beer. These agents are added to clarify and brighten the beer. Very common fining agent is Isinglass, which is obtained from the dried swim bladders of various fish especially Sturgeon. It attracts sediments to the bottom of the cask and making beer bright and clear.

CHECK YOUR PROGRESS-I

1. List the ingredients used in beer making.

2. Write a note on 'beer".

3.4 PRODUCTION OF BEER

Production of beer is known as brewing and is fundamentally biochemical and biological process. There are several steps in the brewing process which needs close monitoring as final product quality and characteristic will largely depend on them.

3.4.1 Malting

Malting is the process where barley grain is made ready for brewing. Malting is broken down into three steps in help to release the starches in the barley.

Steeping: After screening the barley to remove foreign matter, it is put into a large tank and steeped in water for about 3 days. The grain absorbs water and oxygen which leads to germinate.

Germination: this is the commencement of growth when the food reserves in the grain namely starch and protein are broken down into sugar and amino acids. The most grains is spread onto a malting floor, which is air conditioned and here the enzymes convert the starch into sugars. The main fermentable sugar obtained is 'maltose' with small amounts of glucose, lactose and fructose. Now the germinated cereal is called green malt.

Kilning: After about five days, when germination has reached the desired stage, further development of green malt is stopped by kilning. The grain is gently dried by hot air and the moister content is reduced up to 4.5% and now termed as 'malt'. Depending on the intensity and duration of kilning, different colored malts are produced as per brewer's requirement. Pale malts are used for light ales and dark malts for darker beer. After kilning the dried and roasted malt is milled or crushed to coarse powder termed as 'grist'.

3.4.2 Mashing

The grist is fed into a container called mash-tun or mash mixer along with hot water and other grain adjuncts or additive such as crushed maize, rye, wheat, rice etc. Everything is mixed and cooked together at low temperature around 65° - 70° C for one to six hours. During the process the malt enzymes are activated and turn starches to sugars. Then the grain residue is strained out and the remaining sweet liquid now called 'wort'. It is run off the mash and the residue is sprayed with hot water to extract any remaining sugar. This process is termed as 'sparging'. This washing allows the brewer to gather as much of the fermentable liquid from the grains as possible. The traditional process for wort separation is called 'lautering', in which the grain bed itself serves as the filter. The left over solids from the mash tun are used as cattle feel.

3.4.3 Brewing

The sweet wort collected from sparging is put into a brew kettle (traditionally made of Copper) where the dried hops and sugar are added. The amount and variety of hops and sugar added depend on the style of beer to be produced. Wort is boiled for one to two hours which imparts biiterness, flavours and aroma to the wort. The boiling also sterilizes the wort and draws out the natural antiseptic elements in hops that protect beer from spoilage. In some breweries, the hopped wort may pass through a hop back, which is a small vat fitted with hops to add aromatic hop favouring and to act as a filter.

3.4.4 Fermentation

The hopped wort is then cooled down to 15° C and transferred to fermenting vats where is pitched with yeasts for fermentation. The wort temperature should not be at 30°C and above while adding yeast as it remains active between 5°- 30°C. Yeast is essential to induce fermentation which converts the sugar into ethyl alcohol and carbon dioxide gas. There are two types of fermentation:

Top Fermentation: Saccharomyces Cerevisiae floats on top of the liquid as it ferments the grain sugars and prefers warm temperatures ranging from 15° C - 25° C and lasts a week and produces ale beer.

Bottom Fermentation: Saccharomyces Carlsbergensis or Saccharomyces uvarum sinks to the bottom of the liquid and ferments best at cooler temperature ranging from 5° C - 10° C and lasts two weeks and produces lager beer.

3.4.5 Maturing

After the fermentation is complete, the beer is then aged or lagered (German word Lagern which means "to be stored"). This step mature or ripens the beer, mellowing its flavor. Some further slow fermentation may also take place and impurities may settle out. The ale (top fermented beer) is racked into storage tank and stored for 3-21 days. It may pasteurize or unpasteurized. After few days it is put into casks without pasteurization with some working yeast cells which condition the beer in the cask known as cask conditioning and sold as draught beer. Hops are added to flavor the beer and clarify easily. Few specialty ales are bottled without filtration and yeast dosage are added, known as bottle conditioning or sediment beers.

The lager (bottom fermented beer) is racked into storage tank and mature for 10-24 weeks at the temperature of $1^{\circ}C$ - $3^{\circ}C$.

3.4.6 Filtration

After maturing, the beer may appear cloudy due to yeast cells and other fine particles that remain suspended in the liquid. The most common method of removing these particles is

filtrations. In this process beer is pumped under pressure through filter system that removes almost all suspended particles resulting in a clear and bright beer.

3.4.7 Pasteurization

Even after filtrations some active yeast cells remains in the beer. So to kill the remaining active cells of yeast, the beer is pasteurized. There are two methods of the same:

Tunnel Pasteurization: This is usually done for bottled beer; they are passed through a tunnel where the temperature gradually increased up to 60° C and then gradually decreased over a period of 25-30 minutes. Heat kills any bacteria in the beer as well as any remaining yeast cells; as well as increases shelve life of beer.

Flash Pasteurization: This is usually done for cans and kegs; which are subject to high temperature of 72°Cfor 30 seconds only. Draught beer which is stored in metal kegs or barrels is generally not pasteurized and must be kept refrigerated to prevent it from spoiling. Many people believe that draught beers taste better as filtrations and pasteurization process in beer production take off flavor and character of beer.



3.4.8 Bottling / Packaging

Packaging is putting the beer into the containers in which it will leave the brewery. Typically, this means putting the beer into sterilized bottles, aluminum cans, kegs or casks, but it may include putting the beer into bulk tanks for high volume guests. Some draught beer, bottled beer, and canned beer are pasteurized. The beer is then cooled, labeled, packed and distributed for sales.

3.4.8.1 Casks

Cask or cask conditioned beer is unfiltered and unpasteurized beer which is conditioned and served from without cask additional carbon dioxide pressure. Beers are racked into sterilized casks which is made of oak wood and bounded by metal belt. Today most modern casks are made of metals. Casks beers are allowed to condition before distributing to the market which gives carbonation which helps in formation of 'head' during serving. These casks are store on



stillion in cellar; casks are available in different capacities.

3.4.8.2 Kegs

Beer kegs are made of stainless steel or less commonly of aluminum. A keg has a single opening on one end, called 'bung'. A tube called a 'spear' extends from the



opening to the other end. There is a self closing valve that is opened by the coupling fitting which is attached when the keg is tapped. There is also an opening at the top of the spear that allows gas (Carbon dioxide) to drive the beer out of the keg. The coupling fitting has one or two valves that control the flow of beer out of and gas into the keg. These kegs stored vertically.



Draught Beer: Draught beer, also spell draft, is beer served from cask or keg rather than from a bottle or can. Draught beer served from a pressurized keg is also known as keg beer. Draught beers are unfiltered and unpasteurized.


Canned and Bottled "Draught": The words "Draught" and "Draft" have been used as marketing terms to describe canned or bottle beers, implying that they taste and appear like beers from a cask or keg. Commercially brewers use this as marketing tool although it is incorrect to call any beer not drawn from cask or keg "draught". Draught beer system uses a plastic chamber in the bottom of the can. The can is filled with beer containing dissolve gas and it is then sealed. When it is eventually opened the pressure pushes the beer down, then up through a small hole in the chamber which releases a very fine stream of bubbles. As we finish pouring, a cask style smooth and creamy head will appeared.

3.4.8.3 Bottles

Bottling of beer is done to retain the flavor, quality and character for a considerable



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length of time. Generally beers are bottled in dark colour glass bottles; commonly in brown or green colour to reduce spoilage from light, especially ultraviolet. However, beers are also available in transparent clear glass bottles which should be stored away from the sunlight. For easier transportation and stacking bottles of different sizes are sold in plastic crates. Half pint and full pint bottles are common in western countries. In India 650 ml bottles are very popular although 300 ml and 375 ml bottles are also available. Bottled beer may be grouped into two category; firstly beers that have matured before bottling and pasteurized and secondly those finish maturing in the bottles. These bottles have dosage of yeast for conditioning the beer.

3.4.8.4 Cans

Beer is distributed in cans also though there is considerable variation in the proportion between different countries.



People either drink from the can itself or pour the beer into a appropriate glass.

CHECK YOUR PROGRESS-II

1. Write a note of Beer making process.

2. Write a note on 'Packaging of Beer".

3.5 **TYPES OF BEERS**

We can classify beer in two basic categories i.e. Ale (top fermentation beer) and Lager (bottom fermented beer).

3.5.1 Ales (Top fermented beer)

Ale is a strong beer that was originally popular in the United Kingdom. Ales are more aromatic and have more pronounced flavor, alcoholic content ranging from 4-5%. Ale is top fermented when the yeast has finished its job, its rises to the top of the liquid rather than settling at the bottom. Ale normally requires less aging than lagar does and can sold within a days after its fermentation is completed. Different types of ales are following:

3.5.2 Stout

Stout has high hop content and a strong malt taste. The malt used for stout is also first roasted, which gives this beer its very dark color. Has a smooth malty flavor and creamy consistency. One of the best known stouts is Guinness of Ireland.

3.5.3 Porter

Since this ale was very popular amongst the porters of Dublin and London's Covent garden porters- thus the name. Porter is a dark style of beer developed in London from well hopped beer made from brown malt which contributes bitter taste and darker color. It has a milder hop flavor, although higher in alcoholic content, it can be as much as 6-7% alcohol by volume.

3.5.4 Trappist

Beer brewed in Trappist monasteries, usually under the supervision of monks. It's kind of strong beer with 6-12% alcohol by volume; six Belgian breweries produce this beer, which is complex and unpasteurized.

3.5.5 Barley Wine

Barley wine is style of strong ale of between 8-12% alcohols by volume. This beer is sweet and strong and sold in small bottles or nips.

India pale ale (IPA): Heavily hopped strong pale ale, originally brewed in UK for shipping to British colonies. The modern style is light colored, hoppy ale.

3.5.6 Lagers (Bottom Fermented Beers)

The name originates from German words "Lagern" means to store. Fermentation takes place at the bottom of the vessel and the beer is stored at low temperatures for up to six months and sometime longer. Different types of ales are following:

3.5.7 Pilsner

Clear, pale lagers (originally from Pilsen, Czech Republic hence the name). Morden styles are characterized by a zesty hop taste and bubbly body.

3.5.8 Bock Beer

Bock is a strong lager of German origin. Different sub styles exist including Maibock, Doppelbock etc.

3.5.9 Other type of Beer

Ice Beer: The filtration process in beer involves chilling the beer to very low temperature so that ice crystals from in it, crystals are then removed; result is very smooth and strong beer.

Fruit Beers & Flavored Beers: Variety of beers with additional flavouring such as honeydew or fruit beers, which have fresh fruits such as raspberry or strawberry introduced during the making process to add flavor.

Reduced Alcohol Beer: Reduced alcohol beer is beer with little or no alcohol content. Most low alcohol beers are lagers but there are some low alcohol ales. Low alcohol beer is also known as light beer, non alcoholic beer or near-beer etc. In the U.S.A, beverages containing less than 0.5% alcohol by volume are legally called non-alcoholic beer may be legally sold to minors in many American states. In United Kingdom there are two different categories apply:

Non Alcoholic Beers (NABs): Beer must contain less than 0.5% alcohol by volume.

Low Alcoholic Beers (LABs): Beer must contain less than 1.2% alcohol by volume.

3.6 FAULTS IN BEER

Faults can usually be attributed to poor cellar management. The common faults are as follows:

Foreign Bodies: It is may be the result of production slips ups.

Sour Beer: Sourness may also be caused by adding stale beer to a new cask or by beer coming in contact with old deposits of yeast that have become lodged in the pipeline from the cellar. This also may be because of lack of business resulting in the beer being left for too long.

Flat Beer: It may result when a wrong spile has been used, a hard spile builds up pressure, and a soft spile releases pressure. Too low temperature of cellar also makes beer dull and lifeless. Beer served in greasy glass also makes beer flat or beer left in the glass for a long time can also spoil the beer.

Cloudy Beer: Poorly cleaned pipeline, stored in too low temperature in cellar may be the reasons.

3.7 STORAGE OF BEER

Beers are actually perishable, in other words they have limited shelf life. To ensure highest quality product is being served, we need to follow these steps:

- Be sure to store packaged beer in a cool, dark place (but not too cold frozen beers take on a cloudy appearance and shouldn't be served). In most cases, beer exposed to high temperature or direct sunlight will lose its flavor.
- Stock rotation on FIFO (first in first out) basis ensure fresh product.
- Beer must be stored in a well ventilated cellar.
- The right storage temperature for beer is dependent on the type of beer. Most beers benefit from being stored at a temperature around 10°C -12.8°C; be sure to keep the temperature constant. Strong, higher alcohol content beers (dark ales) benefit from a temperature around 12.8°C 15.5°C. Standard mid range alcohol content ales (IPAs, stouts etc.) benefit from a storage temperature around 10°C -12.8°C. Lighter alcohol content beers (lagers, pilsners etc.) benefit from a storage temperature around 7.2°C -10°C, which is the refrigerated temperature.
- To avoid the problem of too much foam that can occur due to agitation during transit, keg should remain stationary 24 hours after receiving.

Store draught beers in refrigerated walk-ins cooler or in refrigerated cabinet.

• Spile control should be done carefully to ensure the quality of the beer and control the pressure inside the cask. Tapping should be carried out 24 hours before it is required.

3.8 SERVICE OF BEER

The service of any beer, whether draught or bottled, starts with the beer glass which should be aroma free and sparkling clean - no oils, dust, detergent residue or other foreign matter.

Draught Beer: Most draught beer systems are designed to serve a glass of beer within several seconds. Normally the glass is placed at 45° angle below the spout and the tap opened quickly, allowing the beer to pour down the side of the glass. The glass is brought to an upright position when the glass is approximately three quarter full, allowing the foam to rise to the appropriate level. Allowing the foam to settle for several seconds afterwards will increase its density and allow the bartender to add a little more foam for a perfect pour. The appropriate amount of foam varies between beer types, but "1.5 fingers" is average.

Bottled & Canned Beer: The service of bottled/canned beer is, of course, different, especially in restaurant settings. The bottle/can should be presented to the guest before it is opened; this will help avoid any confusion as to what has been ordered. The server can use this as an opportunity to check that the beer is at the appropriate temperature and to see whether it is unfiltered and therefore contains sediment. The beer should then be opened at the side station and brought back to the table for pouring. In the majority of cases, especially in more formal restaurants, the glassware should remain in place on the table while the beer is served. This requires skill and patience to serve.

Serving Temperature:

- Serve pale lagers, wheat beers, pale ales and IPAs relatively cold at 5°C 8°C.
- Serve darker lagers, brown ales, farmhouse ales and sour beers at $7^{\circ}C 9^{\circ}C$.
- Serve Irish stouts and British summer ales at moderate temperature 9°C 11°C.
- Serve cask conditioned ales, barley wines and aged vintage beers at mildly chilled temperature 11°C 13°C.

3.9 BEER GLASSWARE

Some of the glassware used in service of beer is as under:



3.10 DIFFERENT INTERNATIONAL BRAND OF BEERS

Origin Country	Brands
Czech Republic	Pilsner Urquell
Australia	Victoria Bitter, Foster
Singapore	Tiger
Denmark	Carlsberg, Tuborg,
U.S.A	Coor, Miller Lite, Stroh's
Netherland (Holland)	Amstel, Heineken,
Mexico	Corona Extra
South Africa	Castle
Brazil	Skol, Brahma
Italy	Peroni
Japan	Asahi, Kirin
Philippines	San Migual
Ireland	Guiness, Kilkenny (Cream Ale), Murphy
Thailand	Singha
Belgium	Stella Artois, Hoegaarden

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Canada	Labatt Blue
China	Snow, Tsingtao

3.11 OTHER FERMENTED & BREWED BEVERAGES

They are as under:

- Sake
- Cider
- Perry
- Alcohol Free Wines

3.11.1 Sake

Sake is national drink of Japan. Sake is an alcoholic beverage made by fermenting rice that has been polished to remove the bran. It is brewed and fermented drink made from rice in Japan. Sake also spelled Saké to show the pronunciation more clearly. Sake is also

referred to in English as a form of rice However. wine. unlike true wine, in which alcohol is produced by fermenting the sugar naturally present in grape, sake is made through a brewing process more like that beer, thus it is of more like a rice brew than a rice wine. To



make beer or sake, the sugar needed to produce alcohol must first be converted from starch. However the brewing process for sake differs from beer brewing as well, notably in that for beer, the conversion of starch to sugar and sugar to alcohol occurs in two discrete steps, but with sake they occur simultaneously. Additionally, alcohol content also differs between sake, wine and beer. Wine generally contains 9-16% alcohol and most beer is 3-9% whereas undiluted sake is 18-20% alcohol, although this is often lowered to around 15% by diluting the sake with water prior to bottling. Sake is served with the help of special sake set consists of the serving flask and drinking cups. Sake sets are commonly made of ceramic, but may be wood, glass or plastic. Serving flask is called Tokkuri (generally bulbous with a narrow neck). Traditionally sake is warmed by placing the sake filled tokkuri in a pan of hot water and thus the narrowed neck would prevent the

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heat from escaping. In more authentic places sake is sometimes warmed and served in metal containers known as Chirori or tanpo. Recently, glass chirori are also used to chill sake. Nowadays, sake is typically served in ceramic cups. The cups used for drinking sake is generally small cylindrical vessels called O-Choko or Choko but may also include flatter shapes such as wide mouthed bowls. Sakazuki are ceremonial cups used most commonly at weddings and other special occasions.

3.11.2 Cider

Cider is an alcoholic beverage made from the fermented juice of cider apples. It is also legally permitted to make cider from the mixture of apple juice and pear juice in proportion of 75:25 respectively. Although cider can be made from any variety of apples, certain cultivars are known as Ciders apple, which have perfect sugar, acid and tannin content to produce cider. Cider is popular in the United Kingdom, especially in the West Country (Cornwall, Devon, Dorset and Somerset counties) and in France (Normandy and Brittany). Cider varies in alcohol content from 2-8.5% A.B.V or more in traditional English ciders. In some countries such as Germany and U.S.A cider may be termed as "apple wine". Due to tax legislation in U.S.A, a cider became classed as an apple wine when sugar or extra fruit was added and a secondary fermentation increased the strength.

Graded fresh cider apples are washed thoroughly and crushed in the mill to make a pulp known as pomace. The pomace is wrapped in a coarse cloth to form a cheese and then it is pressed to obtain juice. The juice is transferred to vat for fermentation with the addition of yeast. The fermented liquid is called cider. The cider is brightened and clarified by applying centrifugal force which spins the cider and removes all the suspended particles. The cider is matured for a few weeks and blended before selling.

MAIN TYPES OF CIDER:

Draught Cider: This is usually unfiltered and has a dosage of yeast and sugar to induce fermentation which gives sparkle to the product and termed as cask conditioned cider. It is slightly sweet with sparkle. If it is complete dry, it is known as scrumpy or farmhouse cider. It is marketed in oak casks or plastic containers.

Keg Cider: It is pasteurized and filtered cider which is usually carbonated and sweetened and brilliant in appearance.

Bottled Cider: It is a pasteurized and filtered cider bottle with dosages of yeast and sugar to induce secondary fermentation in the bottle. Secondary fermentation can be done in closed tanks or impregnated with carbon dioxide gas. This drink has effervescence and termed as pomagne (produced by Bulmers in the U.K). Bottled ciders are marketed as vintage or special.

Brand Names of Cider:

Bulmers – Ireland (Marketed as Magners outside Ireland), Carling – Canada, Strogbow – United Kingdom, Savanna Dry – South Africa, White Star – United Kingdom, Fox Barrel – U.S.A, Woodpecker – United Kingdom

3.11.3 Perry

Perry is an alcoholic beverage made from fermented juice of pears, similar to the way cider is made. In the production of Perry, it is allowed to mix cider apple juice to a maximum of 25%. Perry is carbonated either by tank method or direct impregnation method. It has been popular is England, particularly in the Gloucestershire, Herefordshire and Worcestershire Counties. It is also made in France especially Normandy and Anjou.

In more recent years, commercial Perry has also been referred to a "Pear Cider", but some organization such as CAMRA do not accept this as a name for the traditional drink.

Perry is usually made sparkling and comes into the special range. It may be carbonated or the sparkle may come from a second fermentation in sealed tanks. In the production of Perry the processes of filtering, blending and sweetening are all carried out under pressure. Perries were traditionally drunk on their own, chilled and in saucer shaped sparkling wine glasses but today the tulip shaped sparkling glass is used.

Brands of Perry:

Gwatkin Farmhouse Perry, Oliver's Bottle Conditioned Perry, Hallets Perry, Hogan's Vintage Perry, Lambrini, Perry Ritz, Bulmers Pear, Magners Pear

3.11.4 Alcohol Free Wines

Alcohol free wines are also known as dealcoholized wine or non alcoholic wine. These wines start out as real fermented wine, but before it is bottled, it is either filtered or put through a spinning process that removes both the water and the alcohol. Next, the volume is replaced with water or a combination of water and unfermented grape juice. This allows people to enjoy the pleasure of a fermented beverage but without the alcohol.

Though it is physically impossible to remove 100% of the alcohol from fermented beverages, alcohol free wines meet the legal definition of a dealcoholized beverage, which states that the product must contain less than half of one percent alcohol by volume. Starting point of making non alcoholic wine is always an alcoholic wine. Turning this alcoholic wine into non alcoholic wine involves adding another step in the production process (i.e. the removal of alcohol) and it can sometimes be difficult to remove all. Even orange juice will generally also contain a very small percentage of alcohol. We can produce non alcoholic wine through the process of distillation, which

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involves applying heat to a liquid mixture. The problem with the distillation process is that we need to apply a significant amount of heat to the wine which can result in a change of other compounds within the wine resulting changes in the taste profile of the wine.

The other process that can be used to produce non alcoholic wine is reverse osmosis (R.O) or sometimes also referred to as the cold filtrations method which does not change the taste profile of the beverage. The advantage of this method is that no heat is required but the alcohol can basically be separated from the wine using a filter.



Examples of Non Alcoholic Wines: Ariel Cabernet Sauvignon, Ariel Chardonnay, Sutter Home Fre white Zinfandel, Pure Vitis Merlot organic grape Juice,

CHECK YOUR PROGRESS-III

1. Write a note of Cider.

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2. Write a note on 'Alcohol Free Wine".

3.12 SUMMARY

Beer originates from the Anglo Saxon word "Baere" mean barley. Beer is one of the oldest and most widely consumed alcoholic beverage in the world, and the third most common beverage overall after water and tea. Beer is brewed from cereal grains- most commonly from malted barley, although corn (maize), wheat, oats and rice are also used.

3.13 GLOSSARY

Alcohol Free Wines: Alcohol free wines are also known as dealcoholized wine or non alcoholic wine. These wines start out as real fermented wine, but before it is bottled, it is either filtered or put through a spinning process that removes both the water and the alcohol. Ales (Top fermented beer): Ale is a strong beer that was originally popular in the United Kingdom.

Ales are more aromatic and have more pronounced flavor, alcoholic content ranging from 4-5%. Ale is top fermented when the yeast has finished its job, its rises to the top of the liquid rather than settling at the bottom. Ale normally requires less aging than lagar does

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and can sold within a days after its fermentation is completed. Different types of ales are following:

Barley Wine: Barley wine is style of strong ale of between 8-12% alcohols by volume. This beer is sweet and strong and sold in small bottles or nips.

Bock Beer: Bock is a strong lager of German origin. Different sub styles exist including Maibock, Doppelbock etc.

Bottled Cider: It is a pasteurized and filtered cider bottle with dosages of yeast and sugar to induce secondary fermentation in the bottle. Secondary fermentation can be done in closed tanks or impregnated with carbon dioxide gas. This drink has effervescence and termed as pomagne (produced by Bulmers in the U.K). Bottled ciders are marketed as vintage or special.

Cider: Cider is an alcoholic beverage made from the fermented juice of cider apples. It is also legally permitted to make cider from the mixture of apple juice and pear juice in proportion of 75:25 respectively. Although cider can be made from any variety of apples, certain cultivars are known as Ciders apple, which have perfect sugar, acid and tannin content to produce cider.

Draught Cider: This is usually unfiltered and has a dosage of yeast and sugar to induce fermentation which gives sparkle to the product and termed as cask conditioned cider. It is slightly sweet with sparkle. If it is complete dry, it is known as scrumpy or farmhouse cider. It is marketed in oak casks or plastic containers.

Fruit Beers & Flavored Beers: Variety of beers with additional flavouring such as honeydew or fruit beers, which have fresh fruits such as raspberry or strawberry introduced during the making process to add flavor.

Ice Beer: The filtration process in beer involves chilling the beer to very low temperature so that ice crystals from in it, crystals are then removed; result is very smooth and strong beer.

India pale ale (IPA): Heavily hopped strong pale ale, originally brewed in UK for shipping to British colonies. The modern style is light colored, hoppy ale.

Keg Cider: It is pasteurized and filtered cider which is usually carbonated and sweetened and brilliant in appearance.

Lagers (Bottom Fermented Beers): The name originates from German words "Lagern" means to store. Fermentation takes place at the bottom of the vessel and the beer is stored

at low temperatures for up to six months and sometime longer. Different types of ales are following:

Low Alcoholic Beers (LABs): Beer must contain less than 1.2% alcohol by volume.

Non Alcoholic Beers (NABs): Beer must contain less than 0.5% alcohol by volume.

Perry: Perry is an alcoholic beverage made from fermented juice of pears, similar to the way cider is made. In the production of Perry, it is allowed to mix cider apple juice to a maximum of 25%. Perry is carbonated either by tank method or direct impregnation method.

Pilsner: Clear, pale lagers (originally from Pilsen, Czech Republic hence the name). Morden styles are characterized by a zesty hop taste and bubbly body.

Porter: Since this ale was very popular amongst the porters of Dublin and London's Covent garden porters- thus the name. Porter is a dark style of beer developed in London from well hopped beer made from brown malt which contributes bitter taste and darker color. It has a milder hop flavor, although higher in alcoholic content, it can be as much as 6-7% alcohol by volume.

Reduced Alcohol Beer: Reduced alcohol beer is beer with little or no alcohol content. Most low alcohol beers are lagers but there are some low alcohol ales. Low alcohol beer is also known as light beer, non alcoholic beer or near-beer etc. In the U.S.A, beverages containing less than 0.5% alcohol by volume are legally called non-alcoholic beer may be legally sold to minors in many American states. In United Kingdom there are two different categories apply:

Sake: Sake is national drink of Japan. Sake is an alcoholic beverage made by fermenting rice that has been polished to remove the bran. It is brewed and fermented drink made from rice in Japan.

Stout: Stout has high hop content and a strong malt taste. The malt used for stout is also first roasted, which gives this beer its very dark color. Has a smooth malty flavor and creamy consistency. One of the best known stouts is Guinness of Ireland.

Trappist: Beer brewed in Trappist monasteries, usually under the supervision of monks. It's kind of strong beer with 6-12% alcohol by volume; six Belgian breweries produce this beer, which is complex and unpasteurized.

3.14 REFERENCES/BIBLIOGRAPHY

- Lilicrap, D. and Cousins, J.; Food and Beverage Service; Eighth Edition, Hodder Education, London, 2010.
- Davis, B., Lockwood, A. and Stone, S.; Food and Beverage Management; Third Edition, Elsevier, New Delhi, 2008.
- Bhatnagar, S., K.; Managing Food & Beverage Operations, First Edition, Frank Brothers & Co., New Delhi, 2009.
- Bagchi, S., N. and Sharma, A.; Text Book of Food & Beverage Service, Third Edition, Aman Publications, New Delhi, 2012
- Singaravelavan, R.; Food and Beverage Service, First Edition, Oxford University Press, New Delhi, 2012.
- Dhawan, V.; Food & Beverage Service; Second Edition, Frank Brothers & Co., New Delhi, 2009.
- George, B.; Food & Beverage Service and Management; First Edition, Jaico Publications, New Delhi, 2008.
- https://india.businessesforsale.com/indian/search/pubs-for-sale/articles/tenancies-leaseholds-and-other-routes-into-pub-ownership
- https://setupmyhotel.com/job-description-for-hotels/food-and-beverage-service-job-description/362-bartender.html

3.15 TERMINAL QUESTIONS

- 1. Define Beer?
- 2. List the ingredients used in Beer making and explain the role of each ingredients in production of beer.
- 3. What are different types of beer? explain each type with suitable examples.
- 4. Explain the service of Beer.
- 5. Write notes on:
 - a. Ales
 - b. Stouts
 - c. Cider
 - d. Perry
 - e. Sake
 - f. Lager
 - g. Pilsner
- 6. Write an essay on other types of fermented beverages.
- 7. List 10 international brands of Beer with their country.

UNIT: 04 SPIRITS

STRUCTURE:

- 4.1 Introduction
- 4.2 Objectives
- 4.3 Production of Spirits
 - 4.3.1 Distillation of Spirits
 - 4.3.2 Pot Still Method
 - 4.3.3 Patent Still Method
- 4.4 Strength of Spirit
- 4.5 Whiskey
- 4.6 Brandy
- 4.7 Rum
- 4.8 Vodka
- 4.9 Gin
- 4.10 Tequila
- 4.11 Liqueurs
- 4.12 Other Alcoholic Beverages
- 4.13 Tobacco
 - 4.13.1 Cigar
 - 4.13.2 Cigrette
- 4.14 Summary
- 4.15 Glossary
- 4.16 References/Bibliography
- 4.17 Terminal Questions

4.1 INTRODUCTION TO SPIRITS

In the middle ages, spirit was known as "Aqua Vitae", water of life. In France it was referred as "Eau-De-Vie". The twelfth century also saw the emergence of "ZhiznenniaVoda" or water of life later to be called Vodka – in Russia and Poland. In the fourteenth century, Brandy was distilled in France and by the fifteenth century Whisky making was well established in the Scottish highlands. Rum was first made in the sixteenth century and about the same time Calvados was first distilled in Normandy, France. Gin came into existence as a medicine in Holland in the seventeenth century, while the eighteenth century saw the development of Whiskey distilling in America. Cordials or Liqueurs are flavoured beverages, whose flavour is obtained either by infusion or distillation of the flavouring compound, to which is then added simple syrup

for sweetening. Miscellaneous spirits are obtained by distilling from various starchy or sugar containing products.

4.2 **OBJECTIVES**

After reading this unit the learner will be able to:

- Understand Production of Spirits
- Understand Distillation of Spirits
- Understand Pot Still Method of producing spirits
- Understand Patent Still Method of producing spirits
- Calculate alcoholic Strength of Spirit
- Tell about Cigar and Cigarettes

4.3 **PRODUCTION OF SPIRITS**

Spirit (also liquor, hard liquor or distilled drink) is an alcoholic drink produced by distillation of grains, fruits, vegetables and molasses that have already gone through alcoholic fermentation. The distillation process purifies the liquid and removes diluting components like water, for the purpose of increasing its proportion of alcohol content commonly expressed as alcohol by volume (A.B.V). Distillation concentrates the strength and flavours of the liquor by removing most of the water.

Distillation: Distillation is the process of separating elements in a liquid by vaporization and condensation. This method has many applications and one of them is the production of spirits. In this process, the alcohol which is present in the fermented liquid or alcoholic wash is separated from water hence spirits are example of distilled beverages. Plant producing the spirits is known as distillery and the person who is conducting distillation is called distiller. The history of distillation goes back over 2000 years when it is said that stills were used in China to make perfumes, and by Arabs to make spirit based drinks.

4.3.1 Distillation of Spirits

The principle of distillation is that ethyl alcohol vaporizes at a lower temperature than water 78° C against 100° C. Thus, where a liquid containing alcohol is heated in an enclosed environment the alcohol will form steam first and can be taken off, leaving water and other ingredients behind. This process raises the alcoholic strength of the resulting liquid. The distillation of alcoholic spirits depends on three factors:

- Ethyl alcohol vaporizes, becomes a gas, when temperature of 78° C is reached, water boils at 100° C. The "still" is an apparatus which allows the separation of water and alcohol to be carried out.
- Water is constantly vaporizing to some extend so every distillation will contain water.

• The minor constituents or Congeners, which include higher alcohols, aldehydes, ethers, esters, volatile acids and organic compounds, give the product its distinctive, individual character of taste and aroma.

All spirits are distilled from the alcoholic wash, which contains 7-12% alcohol. Ethyl alcohol vaporizes at a lower temperature of 78° C than water which vaporizes at 100° C. It makes it simple to separate alcohol from water. Liquid of higher alcohol percentage is achieved by repeated distillation which can be diluted with the addition of distilled water to get the required strength. The still is the apparatus which separates alcohol from water. There are two types of still used for distilling spirits:

4.3.2 The Pot Still

This method is used for full, heavy flavoured spirits such as brandy and whisky. It is oldest method of distillation and most of the finest spirits are made by pot distillation. The pot still has the shape of a giant onion and consists of two parts: a still and a condenser with spiral

tube. The still is of made copper, which is good conductor of heat and also builds up a good resistance to the



effects of acids which are normally capable of dissolving metal. The condenser is a spiral tube also made of copper and this is connected to the still by a copper pipe. The first still is called 'Wash Still' which is larger than the second still, called 'Spirit Still'. The alcoholic wash is directed to wash still, where is heated up. When the temperature reaches 78° C, the alcohol vapours rise up, pass over the swan neck of the still, and are led to the condenser through the spiral pipe which is enclosed in a cold water container. The condensed liquid is termed as low wine which has around 30% alcoholic strength. Low wine is sent to the spirit still for second distillation to get higher alcoholic content. The first part of the distillate is known as the heads/foreshots (feints/tête), which is pungent, unpalatable and impure, is kept aside for further treatment. The central portion or the heart (coeur) is the best part has an alcoholic strength of around 80% and is channelized into the spirit receiver and finally into maturing casks. The final part of distillate known

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as tails/after shots (feints/queue), is weak in alcohol and contains the impurities and fusel oils. This is now added to the reserved heads and sent back to be re-distilled and refined. The new spirit may be reduced in strength to 63% by the addition of pure water. The spirit now requires resting, maturing, blending, adjusting in strength and perhaps colour enhancement before being bottled for sale. The spirit obtained through pot still will have alcohol with some water and minute amount of other substances such as esters, acids, flavouring oils, trace minerals etc. that are derived from the base wash and give flavour, body and aroma to the spirit. These substances are known as congeners. Spirits obtained through pot distillation have more congeners than the ones obtained through patent still, which certainly contributes to the body and aroma of the drinks. Brandy, malt whisky, Irish whiskey, liqueurs, tequila and dark rums are pot stilled.

Advantages:

- It produces spirits of remarkable individuality, quality and flavor.
- Small quantity of alcoholic wash can be distilled.

Limitations:

- It is time consuming and costly to operates.
- It needs more labor to operate. ٠
- It need frequent cleaning and refilling, often after each batch.
- Distillation need to carry out minimum two times. •



4.3.3 The Patent Still

Patent or Continuous or Column Still. It employs the principle of distillation by steam and

uses rectification to make the end product as pure and congener free as possible. It produces a continuous flow of high strength about 90% alcohols by volume (A.B.V). It is cheaper than pot still to operate as it is lighter on fuel. Because its system of operation is continuous, it does not require the labour intensive tasks of emptying, cleaning and refilling of still. The patent still is associated with all the light spirit such as Vodka, Gin, white & light Rum and grain Whiskies which are later used for blending.

The patent still consists of two columns each about 50 meters tall and these columns are interconnected. One column is called the 'analyser', whose role is to separate the constituent parts. The other column is the 'rectifier', which raises the strength, purifies the spirits and condenses the alcoholic vapours. Each column is sub divide horizontally into chambers by perforated copper plates which have a drip pipe leading to the chamber underneath. Both columns are preheated by steam and the fermented liquid or wash enters at the top of the rectifier and gradually descends through inside a pipe. By the time the wash reaches the bottom of rectifier it is almost at boiling point. It is then pumped into the analyser where it gradually makes its way downwards through perforated plates and bubble caps. As it descends, it is met by current of raw steam which has been injected under pressure boils the wash and produces alcoholic vapours. These rise and are channelized by a pipe into the bottom of the rectifier. The spent wash is removed at the bottom of the analyser.

Inside the rectifier, the alcoholic vapours pass through a series of perforated plates. As they rise they meet at certain points the cold wash being carried down the rectifier by the wash coil. Partial condensation takes place – the vapours getting cooler and the wash, on its way up in the analyser, getting hotter. When the spirits vapours reach two thirds of the way up in the rectifier, they hit a cold spiral plate or water frame and precipitate. The first liquid to emerge - the heads or foreshots is removed and sent back to the analyser because it is pungent and needs further refining. The comparative pure spirits which follows is guided into a spirits receiver, which is diluted, matured in casks, blended, rested and bottled for sale. The patent still produces congener free spirits of high alcoholic strength. Light spirits such as Gin, Vodka, white Rum, neutral spirits, grain Whiskies etc. are prepared by this method.

Advantages:

- It is cost effective.
- More quantity is produced as compared to pot still method.
- It does not require too much labour, cleaning and refilling.

Limitations:

• It is not suitable for distilling small quantity of spirits.

• Aroma and other elements that are required in spirit may not be achieved.

After production, most of the fermented and distilled beverages are aged to mellow them and to make them acquire unique characteristics before bottling.

CHECK YOUR PROGRESS-I

1. Write a note on 'Pot Still Method'.

2. Write a note on 'Patent Still Method".

4.4 STRENGTH OF SPIRITS

Different alcoholic beverages have different alcoholic strengths that are indicated by the word "Proof" on the bottles. In early days the distiller used to check the strength by adding gunpowder and setting it alight. If it burst with a bang it was too strong and hence "over proof" and if it failed to ignite then it was considered weak and "under proof". If it

burned with a steady blue flame it was "proved" to be around 50% alcohol or 100° proof and just right to drink. Anything under this is under proof and anything over this is over proof.

Scales for measuring alcoholic strength: There are three different scales of measuring proof namely:

Gay Lussac (GL) scale: It is used in France and in the most of Europe. The absolute is rated as 100; hence proof is equal to the percentage of alcohol in the spirit. So if whisky has 42% alcohol it is 42° proof GL.

Sikes Scale: It is used in Britain and the commonwealth countries. Bartholomew sykes introduced a hydrometer which calculated that 57.1% of alcohol is equivalent to 100° proof. So 100% alcohol is equal to 175° proof.

American Scale: It is used in United States and in this system 50% alcohol is equal to 100° therefore 100% alcohol is equal to 200° proof.

Organisation Internationale de MétrologieLégale (OIML): Most countries follow OIML system. It measures the strength as percentage of volume at 20°C. OIML is same as GL which is most logical of the system.

4.5 WHISKY

Whiskey is a spirit distilled from grain by pot or patent still method. The grain used may be barley, maize, wheat, rye or mixture of grain in varying proportions, according to regulations which monitor the grains and its proportion and various processes in whisky production. The mixture may contain malted grain, un-malted grain or both.

The distilled drink is then aged in wooden barrels, especially those made of oak. These barrels may be new or used and charred or un-charred on the inside, depending on the style of whisky being produced.

Scotch whisky: It is considered as the world's finest whisky. By law, scotch whisky means whisky which has been:

- Distilled at a distillery in Scotland from malted barley to which whole grains or other cereals may be added.
- Distilled at an alcoholic strength less than 94.8% by volume so that the distillate has an aroma and flavour of the raw materials.
- Matured in an excise warehouse in Scotland in oak casks of a capacity not more than 700 litres for a period of not less than three years.

• Bottled at a minimum alcohol of 40% by volume.

The quality and flavour of scotch are greatly influenced by type of cereal used, malting process, peat drying process, the quality of water, the air, the climate, the distilling method and the *skill* of the distiller and blender. Many countries try to imitate scotch but are not able to succeed. This is primarily attributed to climate, peat, and very fine quality of water.

Scotch whisky Regions:

Highland: Around 80% of all scotch distilleries are located in this region and it produces famous whiskies.

Lowland: These are the lightest in style and make excellent blending bases.

Campbeltown: Probably home to the first distillers in Scotland, however only two remain and produce medium bodied, smoky whiskies.

Islay: the distilleries off the west coast produce some of the most fully flavoured and peaty malts often with hints of iodine and tar. This reputedly comes from the local peat created from marine vegetable matter. Most blends have a little of Islay whisky to enhance the flavour.

Flow chart of Production of Whisky



↓ Bottling

Types of Scotch: There are two distinct types of scotch – Malt and Grain.

Malt Whisky: Malt whisky is made from malted barley and then double distilled in pot still.

Production of Malt Whisky:

- Barley is malted by soaking it in water for about two days and then spreading it on the floor for germination.
- During the germination process, the enzymes convert the barley starch into soluble sugar.
- Germination is then stopped by kilning.
- The smoke of the peat contributes a unique character and flavour to the whisky.
- The dried malt is then crushed to extract the sugar.
- The crushed malt is placed in mash-tun with boiling water and brewed to extract flavour.
- The resultant 'wort' is then cooled and transferred to a wooden or steel fermenting vessel where cultured yeast is added.
- Yeast acts on sugar and converts it into alcohol. (alcoholic wash)
- This alcoholic wash is then distilled twice in pot still.
- The spirit is then reduced to 63.5% A.B.V and aged in oak casks.
- Minimum Legal maturation period of maturing is three years.

Brand Names: Glenfiddich, TheGlenlivet, Highland Park, Bowmore, CardhuAberlour, Jura, Glen Grant, Macallan, Springbank, Glenmorangie

Grain Whisky: Grain Whisky is made chiefly from corn or wheat with a small percentage or barley and barley malt and distilled in patent still.

Production of Grain Whisky:

- Made from mash consisting of wheat or maize and a small quantity of malted barley.
- The un-malted cereals are milled and them steam cooked to release the starch.
- This solution is placed in mash-tun and malted barley is added with hot water.
- The mixture is mashed and brewed to get wort.
- Wort is then cooled and then fermented with yeast, creating alcoholic wash.

- This alcoholic wash is then distilled in a patent still, hence producing lighter and milder spirits.
- It is then aged for a minimum period of three years.
- Grain whisky matures more rapidly compared to malt whisky as it is light bodied.
- Majority of the grain whisky is used for making blended Scotch whisky

Blended Whisky:

- A mix of malt and grain whiskies. Most scotches sold in the market are blended scotch.
- Proportion of malt to grain whisky is between 20 and 40 %.
- The cheaper blend will have more percentage of grain whisky.
- The blender must maintain flavour consistency of the blended whisky.

Brand Names of Blended Whisky:

Johnnie Walker Red, J&B Rare,Ballentine's,Chivas Regal,Dewar's,Grant's,Cutty Sark, Black & White,Vat 69,Teacher's, Johnnie Walker Black, Dimple, Famous Grouse.

Irish Whiskey: The Irish spell whisky as 'whiskey'.

- It is distilled in Ireland from a wash of malted and un-malted barley with some grain.
- The germination of the grains is stopped by heating grains in kiln by hot air produced by anthracite coal.
- This is thrice distilled in pot still and matured for a period of five years.
- However, now-a-days produced by patent still.

Brand Names of Irish Whiskey:

Blended: Jameson,Black Bush,Powers,Paddy,Tullamore Dew,Millars, Bushmills Original.

Single Malts: Bushmill,Locke's Single Malt,The Irishman Single Malt,Tyrconnell,Brogan's Legacy Irish Single Malt.

American Whiskey: The Americans spell whisky as 'whiskey'. All American Whiskies are made from cereal (generally, a mixture of various grains of cereals), distilled mostly in patent still at no more than 90% and aged in oak barrels (except for corn whiskey which may not be aged) and bottled at not less than 40% A.B.V. The following are the types of whiskey from the U.S.A:

Bourbon Whiskey:

- It is named after the county Bourbon in Kentucky.
- Produced from alcoholic wash consisting of corn, rye, wheat, and malted barley.
- The minimum corn to be used for this mixture must be 51%.
- Usually the mash mixture consists of 70% Corn, 20% Rye & 10% Malted Barley.
- It is distilled in patent still.
- Matured in charred new oak casks for a minimum period of two years.
- Usually Bourbons are aged for 6-10 years.
- The charred barrels contribute special flavour to the whisky.
- The main feature of Bourbon Whiskey is both 'Sweet Mash' and 'Sour Mash' yeasting is done.
- Sweet Mash Use of freshly cultured yeast.
- Sour Mash At least 1/3rd mash left over from previous fermentation, so that each new batch is 'related' to the previous batch and develops more complex flavours.

Brand Names of Bourbon whiskey: Old Forester, Old Grand-dad, Four Roses, Old Crow, Old Kentucky, Jim Beam, Kentucky Tavern.

Tennessee Whiskey:

- It is a sour mash whisky produced from mixture of grain consisting minimum 51 % corn, distilled in Tennessee.
- After distillation it is filtered/seep very slowly through vats packed with charcoal made from wood of sugar maple tree.
- This gives it a softer/smoother character.
- Matured in new charred oak barrels.
- Most Tennessee Whiskeys are made from the mash of corn (80%), rye (10%) and malted barley (10%).
- Tennessee Whisky is the protected name for a sour mash of American Whiskey.

Brand Names of Tennessee whiskey: Jack Daniel's, George Dickel, Pritchard's.

Canadian Whisky:

- These are blended whiskies using corn, wheat and other grains with a very small proportion of rye for flavouring.
- Whatever may be the composition of grains used, Canadian call their whisky as rye whisky.
- They are distilled in Patent Stills.

- Blending takes place before or during ageing period.
- Maturation takes place in charred white oak barrels for at least three years.
- In practice usually matured for minimum of 6-7 years.
- These are excellent light bodied whiskies.

Brand Names:Alberta Premium, Canadian Club, Canadian Five Star, Canadian 83, Crown Royal, Gibson's Finest, Forty Creek, Walker's Special.

4.6 BRANDY

Brandy or Burnt wine is a spirit obtained from the distillation of fermented grape juice and suitably aged in wood. The spirit distilled from any other fruit other than grapes are fruit brandies and must be named after the fruit combined with the name 'brandy'; e.g. Cherry Brandy, Peach Brandy, Apricot Brandy.These fruit brandies are classified as Eaux-De-Vie and also known as alcoolsblanc. Although Brandy is produced by all countries that produce wine but Cognac and Armagnac are notable in this category.

Cognac: It is produce in the Cognac region of France in the department of Charente and Charente-Maritime and considered most famous and prestigious. Brandy produced from grapes grown in the vineyards of the delimited district of Cognac, surrounding the ancient town of Cognac, on the Charente River.Modern delimitation done in 1909, a decree was made to protect Cognac from intimation and accordingly to get Cognac name, the spirit must be made entirely from grapes grown in the delimited region.

Delimited Cognac Regions:

Charente's Sub-divisions (in order of quality) are as follows:

Grande Champagne - 14.65% land area. Petite Champagne - 15.98% land area Borderies -4.53% land area Bois (Fins Bois, BonsBois, Bois Ordinaires) - 64.84% land area

The Cognac District:

Climate:

- Temperate and damp.
- Hot summers.
- Good rainfall in winters.

Soil:

• Chalk and limestone

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• More the lime, better the Cognac.

Grape varieties for Cognac:

- SaintÉmillion (elsewhere Ugni Blanc)
- Folle Blanche
- Colombard

Production of Cognac:

Flow chart of Production of Cognac

Grapes pressed twice, pips & stalks are not crushed (for less tannin) \checkmark The wine produced is fruity, thin, harsh, slightly acid and unpleasant (8% to 10% A.B.V) \checkmark Fermentation takes up to 10 days \checkmark Passed through settling bins (Racking) \checkmark Distilled in alembic = 30% A.B.V \checkmark Distilled again in alembic = 70% A.B.V \checkmark Aged in Limousine or Troncaisoak casks (rich in tannin) (Amber tone, delicate and mellow with a natural bouquet of grapes) \checkmark Coupage (Blending) \checkmark Dilution with distilled water \checkmark Colour adjustment with caramel \checkmark Packaging/Bottling

Types of Cognac:

Grande Champagne / Grande Fine Champagne– It is the cognac produced entirely from brandies, made from the grapes grown in Grande Champagne region.

Petite Champagne –Made entirely from brandies produced from grapes grown in the Petite Champagne region.

Fine Champagne – It is the blend of brandies produced from grapes grown in Grande Champagne (minimum 50%) and Petit Champagne areas.

Cognac Label language:

Alphabet System:

- C Cognac E - Especial F - Fine V - Very S - Superior P - Pale O - Old
- X Extra

Alphabet and Star System:

Cognac laws are governed by 'The Bureau National Interprofessionnel Du Cognac'. VS or *** - Very Special demand a minimum age of 3 years. Reserve / VO / VSOP - Youngest brandy in the blend to be at least 4 ½ years. Extra/ Napoleon - Youngest brandy in the blend to be 6 years.

Brand Names of Cognac:Martell,Hennessey,Rémy Martin,Courvoiser (These four brands jointly have a 75% market-share),Bisquit,Hine,Camus,Delamain,Prunier, Moyet,Otard,Polignac, Salignac.

Armagnac:Armagnac is the world's second best brandy produced in the Armagnac region of France from the Department of 'Gers', south-east of Bordeaux. The main grape varieties used in production of Armagnac are Saint -Émillion (elsewhere Ugni Blanc), Folle Blanche, Colombard and Baco Blanc (Baco A22).

Region of Armagnac:

Bas-Armagnac: The finest Armagnac is produced here.
Ténaréze: Armagnac produced here matures early.
Haut- Armagnac: Lowest quality Armagnac is produced here.
Brand Names of Armagnac: Samalens, Chabot, H.A.Sempé, Castagnon, Janneau, Laubade, Delord

4.7 RUM

Rum is an alcoholic beverage distilled from fermented sugarcane by-products such as sugarcane juice, sugarcane syrup and molasses. It is distilled at less than 190 Proof (95% A.B.V) and bottled at not less than 80 Proof (40% A.B.V).

Rum is derived from Latin word –Saccharum and was first produced in the Caribbean countries in the 17th Century.The sugar plantations were maintained by slaves who had

been brought to the Caribbean from Africa by the British. They distilled crude and harsh rum as early as 1647 in small pot stills in the sugarcane fields. In those days, it was consumed without maturing and was the drink of English pirates and the British Navy. This spirit was termed as "Rumbustion" - meaning uproar and "Rumbullion" or "Kill-Devil" - a slang for a fracas or brawl. The British Navy issued rum to warm its sailors and treat scurvy. Admiral Vernon, nicknamed 'Old Grog' realized in 1740 that the heavy consumption of Rum was affecting his crews' efficiency; he ordered the rum be diluted with water and served.

Rum Production:

- Molasses, a by-product obtained during the sugar manufacturing process, is diluted with water.
- The liquid is then allowed to ferment naturally by yeasts in the air or with the dilution of a distiller's strain of cultured yeast and/or 'DUNDER'- the yeast rich foam from the previous fermentation, depending on the type of rum being produced.
- The distiller may either opt for faster fermentation which lasts for less than two days or slow fermentation which takes up to two weeks. Wash obtained by faster fermentation is generally used in the production of white and lighter rums e.g. Bacardi and the one obtained by slow fermentation has more esters, which give fuller and pungent rum e.g. Myers. Easters are formed when acids come in contact with the alcohol and they give aroma to the drink.
- The wash obtained with alcoholic strength of 7% is then distilled either by patent still or pot still. The rum produced in patent still is white and very light and the rum obtained from pot still has more congeners that give strong aroma and body to it.
- The light rum is then aged in wax lined oak casks or stainless steel container for a period of one year to get white rum or matured for three years in charred oak casks and a small quantity of caramel is added to get gold rum. The congener rich rum is matured in oak casks which makes the spirit get the colour of wood and is also coloured with liberal dosage of caramel. This results in dark rum. During ageing, the strength of alcohol is between 75-85%.
- Rum is finally blended to achieve consistency in aroma, colour and body that is unique to a particular brand. The blend may have all type of rums-white, all darks, white and darks, varieties from different Caribbean countries.
- The alcoholic strength is brought down to 40% with the addition of distilled water before bottling.

Types of Rum:

- White and Light Rum: It has very little flavor and is colorless. Its colorless and flavorless feature has made this variety perfect ingredient for cocktails. Most of the white rums come from Puerto Rico.
- **Gold Rum**: It obtains its colour either while maturing in charred oak casks or from the small quantity of caramel. It is normally aged for three years. It has more flavor than white Rum.
- **Dark Rum**: It has a strong and pungent flavor. It is aged for a longer duration (six years) in charred oak cask. It gets its dark brown colour from wood, caramel, and/or residual molasses. This rum is extensively used in cookery especially in the preparation of cakes, sweets and ice cream.
- **Spiced Rum**: it is dark in colour, flavoured, and coloured with spices and caramel. Inexpensive white rum may be coloured with liberal caramel.
- Flavoured Rum: This rum is flavoured with fruits such as orange, lime, apricot, plums, banana, coconut etc.

Brands of Rum:

- **Dark Rum**: RhumBarbancourt (Haiti), Captain Morgan (Puerto Rico), Myers (Jamaica), Lamb's Navy (Jamaica), Mount Gay (Barbados), Cruzan Rum (U.S Virgin Islands), Gosling's Black Seal Rum (Bermuda), Old Monk (India), Khukri (Nepal)
- White Rums: Bacardi (Puerto Rico), Ron Rico (Costa Rica), 10 Cane (Trinidad), Don Q Cristal (Puerto Rico)

4.8 VODKA

Vodka is a highly rectified spirit made from grain, potatoes or Molasses. It is a national drink of Russia and Poland.

The name Vodka or Wodka means "**little water**" because the product looks like water, being colorless, odorless and tasteless.

The finest quality Vodkas are filtered through activated layers of charcoal or fine quartz sand.

In other words it is a highly rectified spirit suitably diluted with water to make it potable. Nowadays, it is manufactured from grains and specifically, not potatoes, but now even grapes are also used in making Vodka. Some distiller flavour vodka with the addition of flavouring ingredients and are quite poupular in the market. For example, **ZUBRÓWKA** Polish vodka, is flavoured with, ZUBRÓWKA grass which gives a very light green colour and the nutty aroma. It is bottled with a single blade of ZUBRÓWKA grass. In the USA, it is available without ZUBRÓWKA grass as many believe that the grass contains certain toxic elements.

STARKA means old in Russian. This vodka proofed at 87° proof. It is nearest in character to whisky. It is distilled from rye and matured for 10 years or so in oak casks which have previously held high strength wine.

Vodka is a perfect ingredient for making cocktail as it is colourless and flavourless. Bloody Mary and Screwdriver are the popular vodka based cocktails. Vodka gained its popularity in the U.S.A through the cocktail Moscow Mule. It has now become so popular that the Vodka Martini or Vodkatini has even surpassed the traditional Martini made from gin.

Manufacturing Process of Vodka:

Mash Preparation: The grain or vegetables are loaded into an automatic mash tub. Much like a washing machine, the tub is fitted with agitators that break down the grain as the tub rotates. A ground malt meal is added to promote the conversion of starches to sugar.

Sterilization and Inoculation: Preventing the growth of bacteria is very important in the manufacture of distilled spirits. First, the mash is sterilized by heating it to the boiling point. Then, it is injected with lactic-acid bacteria to raise the acidity level needed for fermentation. When the desired acidity level is reached, the mash is inoculated once again.

Fermentation: The mash is poured into large stainless-steel vats. Yeast is added and the vats are closed. Over the next two to four days, enzymes in the yeast convert the sugars in the mash to ethyl alcohol.

Distillation and Rectification: The liquid ethyl alcohol is pumped to stills, stainless steel columns made up of vaporization chambers stacked on top of each other. The alcohol is continuously cycled up and down, and heated with steam, until the vapors are released and condensed. This process also removes impurities. The vapors rise into the upper chambers (still heads) where they are concentrated. The extracted materials flow into the

lower chambers and are discarded. Some of the grain residue may be sold as livestock feed.

Water Added: The concentrated vapors, or fine spirits, contain 95-100% alcohol. This translates to 190 proof. In order to make it drinkable, water is added to the spirits to decrease the alcohol percentage to 40, and the proof to 80.

Bottling: Alcoholic beverages are stored in glass bottles because glass is non-reactive. Other receptacles, such as plastic, would cause a chemical change in the beverage. The bottling procedure is highly mechanized as the bottles are cleaned, filled, capped, sealed, labeled, and loaded into cartons. This can be done at rates as high as 400 bottles per minute.

Types of Vodka:

Neutral Vodka: It is distilled from grain or potato and highly rectified. It is filtered through activated charcoal or quartz sand.

Gold: It is cask matured to get gold colour. Vodka is matured in the wooden cask to derive olden colour from the wood.

Flavoured Vodka: It is flavoured with various spices, herbs, and fruits, e.g. Absolut – Citron, Mandrin, Pepper, Apeach, and Vanilla.

Brand name of Vodka: Smirnoff (England), Pearl (Canada), Finlandia (Finland), Absolut (Sweden), Svedka (Sweden), Stolichnaya (Russia), Muskovskaya (Russia), Gilbey's (U.S.A), Gordon's (U.S.A), Skyy (U.S.A), Effen (Holland), Ciroc (France), Grey Goose (France), Luksusowa (Poland), Belvedere (Poland), Red Riband (India), Romanov (India), High Society (India).

4.9 GIN

Gin is a spirit which is distilled from cereals and flavoured with Juniper Berries, Coriander seeds and other botanicals. The main gin producing countries are England, Holland, Canada and U.S.A. Gin originated over three centuries ago in Holland when Franciscus 'de la Boe' Sylvius, professor of medicine in Holland's University of Leiden mixed juniper berries and alcohol to cure kidney complaints. The word "Gin" is an abbreviation either derived from the French word 'genievre' or the Dutch word 'junever'

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both meaning juniper berry. British soldiers took the drink before going into battle in the Netherlands which gave them 'Dutch Courage'. They developed liking for the taste and took the art of making this spirit to England.

By 18th Century Gin became a cheap remedy for London's poor and there was no control over the production of Gin and was produced all over London. The famous phrase came about because of the cheapness of Gin. "Drunk for a penny and dead drunk for two pence, clean straw or nothing". Some employers even gave Gin to their employees as part payment of wages.

Styles of Gin:

Dutch Gin / Holland Gin: It is distilled twice in pot stills with Juniper berries and other botanicals.

London Dry Gin / Dry Gin: It is distilled first in patent still, and then in pot still along with Juniper berries and other botanicals.

Production of Dutch Gin / Holland Gin: It is produced by fermenting the mash of rye, malted barley and corn, distilling it in pot stills and re-distilling at low proof with the addition of juniper berries and other botanicals. This produces full bodied gin with a distinct flavour of malt and juniper. It is not ideal for mixed drinks/cocktails as its own taste is predominant. It is best enjoyed straight and chilled.

Flow chart of Dutch Gin/ Holland Gin production:

Equal quantities of malt, corn & rye are mashed and fermented \downarrow Distilled in Pot Still (2 or 3 times) \downarrow Redistilled with addition of Juniper berries and other aromatics \downarrow Stored in glass lined containers and then bottled

Production of London Dry Gin / Dry Gin: It is made from grain spirit which is distilled from a grain mixture of barley, corn, and rye in patent stills to obtain neutral spirit at 180-188 degree proof. It is then reduced to 120 degree proof with the addition of distilled water and then redistilled in pot stills with juniper berries and other botanicals either placed in the spirit or suspended above them so that rising vapours passes through them absorbing the flavour and then condensed.

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Originally made in and around London (most English gins are still made there). Now it's a generic term. It is colourless and light bodied and used mainly in the preparation of mixed drinks/cocktails.

Flow chart of London Dry Gin/ Dry Gin production:

75% Corn + 15% malt + 10% others mashed and fermented ↓ Distilled in Patent still (90% to 95% A.B.V) ↓ Dilution with distilled water (60% A.B.V) ↓ Distilled in Pot Still with juniper berries and other botanicals (85% to 90% A.B.V) ↓ Dilution to marketing strength and bottled

Brand names of Gin:

Dutch Gin - Bols, Kokma, De Kuyper, Hasekamp, JongaGraanJenver

London Dry Gins - Booth's, Gordon's, House of Lords, Calvert, Tanqueray, Gilbey's, Beefeaters, White Satin, Bombay Sapphire and Seagrams.

4.10 TEQUILA

Tequila is Mexican liquor, distilled from the fermented juice of blue-green agave Tequilana weber. It is known as blue mescal in Mexico. To be legally labeled as Tequila, it must come from the area surrounding Tequila which is about 65 K.M North West Guadalajara in the state of Jalisco, Mexico and very limited areas in the states of Guanajuato etc. The mineral rich volcanic soil of the foothills of Sierra Madre in Jalisco has the largest producers of Tequila. Quality tequila is distilled from 100% agave, but Mexican law permits tequila distillers to mix sugars such as corn sugar with agave to a maximum limit of 49% during fermentation. It means that to label a drink as tequila, it must have minimum of 51% distillate obtained from agave tequilana weber. Most tequila is bottled at 37-40% A.B.V.

Production of Tequila:

Tequila production is strictly regulated by the Mexican Government's rules and regulation inspections are carried out to ensure that the rules are followed by the distillers.

The following steps are involved in the production of tequila:

- The Agave Tequilana plant is harvested manually when they are 8-10 years old. If they are harvested too soon, there will not be adequate sugar and if too late, the sugar would have been used up by the plant.
- The spiky leaves of the agave are pulled out to get the heart of the fruit that closely resemble a huge pineapple. It is called Piña and weighs approximately 35-70 Kg.
- The Piñas are cooked either in the traditional stone oven called 'Hornos' or steamed cooked in autoclave. Cooking in stone oven takes as long as 36 hrs, whereas in autoclave it takes 12 hrs.
- Cooked pinas are cooled and crushed to extract the juice called aguamiel, either in traditional stone wheel 'Tahona' or steel rollers.
- The juice is transferred to vat and yeast is added to induce fermentation. Fermentation produces wash of 5-7% alcohol.
- The wash is distilled twice in pot still. The first distillation produces ordinario which is about 20% A.B.V and the second distillation results in tequila of higher strength.
- The tequila at this stage may be diluted and bottled as 'Silver Tequila' or aged in oak casks.
- Aged tequila is then diluted to 40% A.B.V and bottled.

Types of Tequila: Mixto (Mixed): It is Tequila distilled from wash obtained from minimum of 51% of agave tequilana sugar and maximum of 49% of other sugar.

100% Agave: This tequila has 100% distillate from agave tequilana weber.

Categories of Tequila: JovenAbogado : The word literally means 'young and adulterated'. It is not 100% agave and it is not aged. It is an example of mixto.

Blanco (White): It is tequila without aging and it is very clear, without any colour. Some blancos are kept for a little time in wax lined oak or stainless steel containers, which reduce the harshness that is very common with blancos. They are also called plata (Silver).

Reposado (**Rested/Aged**) : It is aged in oak casks for a period of two months to one year. The same cask used for maturing Bourbon whiskey may be used for aging tequila. This process mellows the tequila and adds colour to the some extent.

Añejo (**Aged**): It is aged for minimum period of one year, but less than three years in government controlled oak casks, which add colour and mellow the spirit.

Extra Añejo (Extra Aged): It is aged for a minimum period of three years in oak casks.

Oro (Gold): It is blend of Plata with Reposado and/or Añejo and/or extra Añejo.
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Out of all the categories, Añejo is the most expensive one. All types tequila are diluted with distilled water to bring the tequila to required strength.

Brands of Tequila: Agavero, CaboWebo, Chinaco, Jose Cuervo, Partida, Patron, Sauza, Montezuma, Corazon de Agave, El Tesoro Don Felipe

Traditional way of drinking Tequila: Tequila is served chilled, and generally it is consumed with salt and lemon. The salt is kept at the web of the hand between thumb and forefinger and a quarter of lemon is held with the same fingers. Pre-poured chilled tequila in a 1 Fl Oz shot glass is held in other hand. The salt is licked, chilled tequila is gulped in one shot, and the lemon is bitten. All this should happen within a few seconds. It is believed that salt lessens alcohol burn and lime balances and enhance the flavour of tequila. A good quality 100% agave does not have significant alcohol burn and should be taken from snifter/balloon glass to enjoy its aroma and true taste. Tequila may be served neat, on the rocks, or with mixers.

4.11 LIQUEURS

Liqueurs are flavoured and sweetened spirits having high alcoholic content. Liqueurs are served in small quantities as digestives at the end of the meal.

History: Liqueurs were first produced in the monasteries of Europe for medicinal purposes. Many of the herbs with medicinal properties were grown near the monasteries. The medicinal properties of this herb were extracted by steeping them in alcohol. In Europe, the flavored liquids were applied on wounds and were often drunk in small quantities for curing cold and fever. Some were sweetened to make them tastier. These were regarded as the protection against infection and plague, but many pharmacists conflicted with the religious laws because of the claims they made for their potions.

In the fourteenth century, the elixir of the monks was known as a preventive against malaria. The dark red liqueur made from Dijon black currents was considered to cure physical diseases, and the bitter wormwood liqueur of Marseilles was used as medicine for stress until 1915 when the government banned the production. Today there are many distillers who make liqueurs of different flavours and colours. The modern first commercial liqueur industry first developed in France. Marie Brizard is often thought to be its founder. She developed an anisette (an-uh-set) in Bordeaux in middle of 18th century. Although some liqueurs have medicinal benefits and most of them are certainly a help to digestion. Liqueurs can be classified as follows:

Generic Liqueurs: Generic Liqueurs can be made by anyone and anywhere. Their names simply indicate what kind of liqueur they are, cream or oil extract from the plants are used. Advocaat, Anisette, Curacao and crème de menthe are example of generic liqueurs.

Proprietary Liqueurs: Proprietary Liqueurs are made by a single distiller who owns the right to make the liqueur of that name. The recipes are trade secret. Grand Marnier, Cointreau ,Bénédictine , Kahlúa, Drambuie, Bailley's Irish Cream etc. are example of proprietary Liqueurs.

Ingredients of Liqueurs: Liqueurs are flavored, coloured and sweetened spirits. To produce liqueurs the following ingredients are required: Spirit, Flavoring Agents, Sweetening Agents and Coloring Agents.

Spirit: To produce a fine liqueur, the alcohol used must be as pure as possible. Constituents of alcohol, such as aldehydes that contribute to the aroma are undesirable in a liqueur base. The method and the degree of rectification will determine the purity of the spirit. Whiskey, Rum, Brandy, Cognac, Fruit spirit etc. are all used, although most liqueurs are made from neutral or grain spirit.

The Flavouring Agent: Liqueurs are flavoured with herbs, flowers, fruits, seeds, barks and roots. Following are the examples of flavouring agents used in the production of liqueurs:

Herbs: Basil, Peppermint, Melissa, Rosemary, Sage, Thistle, Thyme, Wormwood etc.

Flowers: Chamomile, Lavender, Lily, Orange Blossom, Rose Saffron etc.

Fruits: Berries, Peach, Oranges, Pineapple, Banana, Citrus Peel, Raisins etc.

Barks: Angostura, Myrrh, Sandalwood, Cinchona etc.

Roots: Angelica, Celery, Ginger, Turmeric, Gentian, Orris root etc.

Seeds: Aniseed, Apricot Stones, Almonds, Caraway, Clove, Cocoa, Coffee, Coriander, Juniper Berries, Musk, Pepper, Star Anise, Vanilla etc.

Cream Liqueurs: These are made by combining cream, spirit and flavorings e.g. Irish – Baileys, Carolans

Sweetening Agents: The sweetening agents used in the production of liqueurs are sugar syrup, maple syrup, corn syrup, and honey. The sugar content of the liqueur distinguishes it from the other types of spirits. It ranges from 2.5-35% by weight. All liqueurs sold in the U.S.A must contain a minimum of 25% sugar by weight. A liqueur with 10% or less is termed as dry liqueur.

Colouring Agent: Natural vegetable colouring agents or approved food dyes are used to colour the liqueurs. The production of liqueurs starts from the extraction of flavouring

agents from the natural substances, then the flavouring agents are impregnated with the base spirit and distilled if necessary, sweetend, fined, and bottled as liqueurs. In the U.S.A, liqueurs are termed as cordials. In reality, all liqueurs are alcoholic drinks, whereas cordials can be alcoholic and non-alcoholic.

Production of Liqueurs:

Extraction of Flavouring: The flavouring agent must be extracted from the natural substances which are used as an ingredient in the blending process. There are four methods by which the flavoring oil can be extracted, depending on the type of the ingredient. They are as follows:

Pressure: By applying mechanical presses the oil is extracted from the ingredients, e.g. from citrus peel.

Maceration: It is used when soft and delicate fruits are used as flavouring agents in the preparation of liqueur. In this method, the flavouring agents are soaked in cold spirit for long time to gain maximum flavour. The spirit, usually the brandy, is placed in the oak casks with the fruits for up to a year and stirred occasionally for effective maceration. Flavour and colour are extracted during this process. When the maceration is over, the liqueur is transferred, and filtered.

Infusion: This is maceration in warm spirit at a constant temperature for several days. This method extracts more flavour quickly than any other method.

Percolation: In this method, the spirit is continuously passed through the flavouring agent by heating. The spirit is boiled and the vapours are passed up the flavouring agent to get the flavour, condensed and return to the boiling spirit. The extracted natural substance may be blended with the base spirit, allowed to rest, sweetened, fined, and bottled or distilled and processed.

Distillation: The extracted essences or oils are steeped in the base spirit until it is well impregnated with flavour, and then it is distilled under vacuum to protect the delicate essences. During distillation, a colourless dry distillate of high alcohol strength is obtained. This liquid is further purified by re-distillation to remove any impurities which would change the flavour.

Compounding: Compounding is the process of blending the ingredients in strict sequence to produce a desired flavours. Most liqueurs are made according to the secret recipes, many of which are centuries old.

Maturing: Liqueurs must be allowed to rest. The finest liqueurs are matured in oak casks, which assist in mellowing the liquid.

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Sweetening and Colouring: Sweetening agent is added according to the style and sweetness required. Liqueurs are coloured to harmonize with the flavour.

Fining: Any suspended matter in the liquid must be removed by fining. The fining process is similar to fining of wine.

Bottling: Spirit is added to liqueur to bring it to the correct alcoholic strength, if necessary. All liqueurs are given a final filtration to ensure star bright clarity before bottling.

Service of Liqueurs: Liqueurs are taken as digestives at the end of the meal with coffee and are offered together with port or brandy. Liqueur is mostly served neat in a liqueur glass. Some people prefer taking liqueur with black coffee as a liqueur coffee. Most restaurants serve the liqueur from the trolley. Guests may order their liqueurs in any of the following ways:

Neat: Pour out a 6 out measure (23.6 ml) of a chosen liqueur in a liqueur glass and serve to the guest.

Frappé: A slightly larger glass is used for holding the ice. Fill 3/4th of the glass with crushed ice and pour over 6 out measure (23.6 ml) of liqueur, place short straw, and serve.

With Cream: The cream is gently poured over the back of the spoon held against the inner side of the glass to settle over the poured out liqueur. Liqueur and cream should not be mixed.

4.12 OTHER ALCOHOLIC BEVERAGES

Absinthe:Absinthe poetically is described as "the water of the star wormwood - the Green muse". It is not because of the warm wood that it is so dangerous but rather because of its alcoholic strength. Absinthe is 136 proof. Absinthe is composed of aromatic plants, Artemisia, mayoris' and vulgar, balm-mint, hyssop, fennel, star anis and high proof spirit usually brandy. The sale of Absinthe was prohibited in Switzerland, France the United States and most other countries. When the manufacture and sale of Absinthe was prohibited in Switzerland and France, the Per nod firm which enjoyed monopoly built a distillery at Tarragona, Spain, where it continues to make Absinthe but without wormwood is called pernodanis.

Aquavit:Literally means elixir or water of life. It is made in Scandinavia from potatoes or grain flavored with caraway seeds. Orange and lemon peel, cardamom and herbs. It is

distilled at 190proof, reduced with water back to 120 proof and redistilled. Aquavit is not aged it is served ice cold and consumed in one gulp. It is usually taken with appetizers, canapés or sandwiches; it is customarily drink to Scandinavian toast.

Arrack or Raki: The word arrack comes from Arabic word meaning juice or sweet. It is called raki in turkey. It is a popular spirit made from the sap of palm trees. The trees are grooved like rubber trees to collect the sap. In some countries rice's or molasses are added before fermentation. Java, India, Ceylon and Jamaica are the best known producing countries. It turns milky when water is added.

Calvados: Calvados is a spirit made from apples or pears in Normandy; calvados is th4e name of a district in Normandy. This apple juice for this spirit is fermented to give approximately 4% alcohol. It is then distilled twice in a similar still as that used for cognac.

Grappa or Marc: Grappa is a kind of Italian brandy made from the residue of grape skins, stalks and pulp left over after wine making. The best grappa are made from single varieties and held in glass rather than oak. There are flavor some, high quality grappa as well as crud and fiery local spirits. There is a fine brand of grappa called Negroni (Grappa Bianca). It should not be confused with a negroni cocktail which contains no grappa but a mixture of gin sweet vermouth and campari.

Karpi: It is a fruit brandy made from cranberry in Finland.

Pastis: French aniseed flavored spirit which turns milky with water. The spirits contains herbs from Jura Mountains. When liquorices root is added to blend, the resulting spirit is labeled per nod pastis. Most famous brands are Ricard and per nod. In French bars Pastis is often ordered as quarantecinq (forty-five) because it is bottled at 45% A.B.V.

Feni: It is obtained from cashew nuts or palm or coconut. It comes from western region of India, Goa. Besides feni there are many Indian drinks like Mahua. It is produced from mahua flowers. Tari is usually made with the sap of stem of date palm plant fermented and distilled, has a very high percentage of alcohol.

Schnapps: A spirits distilled from potatoes in Germany and Holland usually flavoure with caraway seed.

4.13 TOBACCO

Introduction: Tobacco is the name given to the plant and cured leaves of several species of Nicotiana which may be used, commonly after aging and processing in various ways for the purpose of smoking, chewing, snuffing and extraction of nicotine. Nicotine and

related alkaloids of tobacco furnish the habit forming and narcotic effect which account for general worldwide use.

Tobacco is fastidious plant that requires a proper soil and moderate climate. The temperature should not fall under 7 degree C. Tobacco plant require a tropical or semi tropical climate to grow (Cuba, Sumatra, Jamaica and Philippines').

In their original home – USA the tobacco leaves acquires characteristics that are internationally flavored and are popular as the tobacco of India, Syria, Greece and Turkey.

The time spends from the moment the plants are prepared to raise a new crop to the time when a tobacco is ready for shipment is about 2 years.

History: Tobacco was first cultivated by the Indians of north and South America when Christopher Columbus and other early explorers arrived in America; they found natives using tobacco much in the same manner as it is used today. "Jean Nicot" the French ambassador at Lisbon, in whose honor the genus Nicotiana was named, is said to have sent seed of N. Tabacum to the queen of France.

4.13.1 CIGARS

When Columbus and his explorers arrived at Central America, Brazil and Mexico found the native Indians smoking a primitive (simple) type of Cigar - a long thick bundle of twisted tobacco leaves wrapped in a dried palm or maize leaf.

The best leaf for the production of cigars is grown in Cuba, Jawa, Jamaica and the East Indies. Less good tobacco but still acceptable to all is produced in India, Japan, South Africa, Germany, Holland, Russia and Hungary. The plants are grown in the same way as other tobacco plants. As they ripen, they are hung in a shed for drying and curing. Thereafter they are packed in bundles and dispatched to the cigar manufactures.

Originally all cigars were made by hand and were straight in shape. Then a wooden mould come into use in which the leaves could be pressed into any desired form – bellied or torpedo shape.

Composition of Cigars:

A cigar consists of three parts:

- o Filler
- o Binder
- o Wrapper

Food and Beverage Service Management –I

Filler: (Shredded Tobacco): The filler is the inner core that forms the body and the shape of cigar.

Binder: The binder is the leaf in which the filler is wrapped to form what is known as cigar bunch (Filler and binder together is called "bunch")

Wrapper: Wrapper or outer covering of cigar consists of a ribbon leaf rolled spirally around the cigar bunch. Wrapper leaf must be strong, elastic and silky in texture and of even colour and it must possess good flavor and burning properties. It is most expensive leaf used in cigars.

Processing: The used leaf is fermented or sweated before use in the cigar in order to reduce the content of harsh and bitter compounds and to develop the mild and aromatic properties of the leaf. Wrapper leaves which receive the greatest care are tied on bundles of 40-50 leaves. Heat is generated in bulk which aids in fermentation.

Banding and Packaging: Modern packaging of cigars demands that band be placed on the cigar or printed on the protective covering which is usually cellophane. This preserves the natural humid static condition of the cigar and is accomplished by machine at the rate of 30,000 cigars daily with band, cellophane, tinfoil or any other combination of similar wrapping.

Smoking Cigars: There is an art involved in smoking a cigar, it should never be inhaled. The end with joins the mouth is "V" shaped or straight cut with care and never bitten off. The paper band must be removed before smoking a cigar. The cigar is then lit evenly from all sides with a match and never with a lighter, which may taint it with aroma of spirit. The butt end is bitter due to the accumulation of oil and tannin, therefore cigar is never smoked to the end.

Service of Cigars: Cigar should be offered in their own boxes to allow the guest to choose his own. The type of cigar will be printed on box. The guest having chosen the cigar he/she wishes, the server should offer to remove the band. A cigar cutter should be used to cut the cigar. The server should then offer to light the cigar of guests. (Cigar should be offered at the end of meal with coffee)

Storage of Cigars: Cigar should be kept in a moist place and at even temperature that is why it is best to keep cigars and cigarettes in a glass case with humidifier. The cigars remain best in their own cedar boxes because it has unique quality of releasing moisture when needed and absorbing when not required in surrounding areas. The advantage of keeping cigar in cedar wood boxes is that mild fragrance of cedar wood mingles well with cigar. Remember not to place cigars near items which release its flavors/fragrance or

absorb the flavor and fragrance of surrounding e.g milk will pick up tobacco flavor and cheese will release its mouldy flavor to cigar. The ideal temperature of storage of cigar is 16-18 degree Celsius and a relative humidity required is 65-70 %.

Brand names of Cigar:

Cuba: boliver, cohiba, cuaba, diplomatios, fonseca, H. Upmann, juanlopez, partagas, punch, rafaelgonzalez, romeo y julieta, trinidad, montecristo

Brazil: angelina, aquarius, aristocratas, black & white, caravelas, damatta, don pepe, gabriela, montepascoal

Danmark: apostolado grand corona 140 m.m, bellona small panta 113 m.m, royal coronation, havanahenryclay

Holland: honfar, ambassador, permanent cuba cabana havana

America: white owls rangers, perfecto, robert burns panatela, corona, panatela

4.13.2 Cigarette

The term cigarette, denoting a paper wrapped roll of finely cut tobacco is an adaption of the Spanish cigaro. Its original meaning was little cigar but usually cigarette tobacco is of a different types, generally milder.

The success story of American mass production and standardizing product, brand development goes with the success of cigarette story.

Cigarettes are produced by a special kind of inferior kind of tobacco produced in and around Virginia, branded as Virginian tobacco which is less fermented, less aromatic, flue cured, light colored. Cigarette being most popular variety of tobacco have had its worth ill effect also unable to vanish this product with biggest global lobby , people have tried to disinfect it by using different types of filter to start with charcoal, cotton and other kinds of natural and artificial fibers and filaments. They also use supporting chemicals to absorb tar, nicotine and various other poisonous fumes released from burning of paper and tobacco. The latest innovation in the filter tipped business in use of menthol cool and various other aromatic substances to enhance smoking pleasure for fewer addicts. Most cigarettes are produced in assembly lines massive machine from cutting tobacco into different length and tax excise depends upon the size of the cigarette rather than the brand.

- 1. Filter made of 95% cellulose acetate.
- 2. Tipping paper to cover the filter.

- 3. Rolling paper to cover the tobacco.
- 4. Tobacco blends.

Types of Cigarettes:

Non filter: Shorter than common cigarettes due to absence of filter.

Regular: The size is 70 m.m

Kings: Average filtered cigarettes containing more tar and nicotine length is 85 m.m. The most common cigarettes sold are king size followed by 100's.

100s: Longer filter, length 100 m.m

120s: Longer and slimmer and length is 120 m.m

Menthols: It comprises menthol, peppermint oil and gives sensation of refreshment.

Cloves: It is a blend of tobacco and clove spice. It has high quality tobacco which is packed tighter than normal cigarettes, has no filter and burns slowly.

Herbal Cigarettes: herbal cigarettes contain no tobacco but herbs like ginseng, marshmallow, mint and passion flower.

Brand name of Cigarettes:

German: Astor filter tip, Lord filter tip, Peer export, Ernte filter tip

American: Philip Morris king, York Imperial, Alpine - philipmorrisusainc, Bristol - philipmorrisusainc, Camel - rjreynolds tobacco company, Classic - sherman's 1400 broadwaynyc, ltd., Kent - lorillard tobacco company, L&M - philipmorrisusainc, Marlboro - philipmorrisusainc, More 120 - Rjreynolds tobacco company, Winston - rjreynolds tobacco company, lucky strike - rjreynolds tobacco company, virginia slims - philipmorrisusainc,

Danish: Broadway, Cecil, Players Virginia

French: Gauloises, Caporal, Gitanes

English: Abdulla no. 7, Benson & Hedges, Black & White, Capstan, Dunhill, senior service

Pipe tobacco: dunhill (flue blue), royal yachat

Service of Cigarettes: Cigarette should never be carried by hand to the guest but placed on a salver or a plate. The packet should be opened and pulling out a few cigarettes partially. The server should stand by with a match or lighter to light the cigarette. It should be made sure that the ashtray is on the table. Ashtray should never be allowed to collect too much ash/butts, it is server duty to exchange them frequently for fresh one.

CHECK YOUR PROGRESS-II

1. Write a note on 'Cigar and service of Cigar'.

2. Write a note on 'Types of Spirits''.

4.14 SUMMARY

In the middle ages, spirit was known as "Aqua Vitae", water of life. In France it was referred as "Eau-De-Vie". The twelfth century also saw the emergence of "ZhiznenniaVoda" or water of life later to be called Vodka – in Russia and Poland. In the fourteenth century, Brandy was distilled in France and by the fifteenth century Whisky making was well established in the Scottish highlands. Rum was first made in the sixteenth century and about the same time Calvados was first distilled in Normandy, France. Gin came into existence as a medicine in Holland in the seventeenth century, while the eighteenth century saw the development of Whiskey distilling in America. Cordials or Liqueurs are flavoured beverages, whose flavour is obtained either by infusion or distillation of the flavouring compound, to which is then added simple syrup for sweetening. Miscellaneous spirits are obtained by distilling from various starchy or sugar containing products.

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4.15 GLOSSARY

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Fining: Any suspended matter in the liquid must be removed by fining. The fining process is similar to fining of wine.

Bottling: Spirit is added to liqueur to bring it to the correct alcoholic strength, if necessary. All liqueurs are given a final filtration to ensure star bright clarity before bottling.

Gay Lussac (GL) scale: It is used in France and in the most of Europe. The absolute is rated as 100; hence proof is equal to the percentage of alcohol in the spirit. So if whisky has 42% alcohol it is 42° proof GL.

Sikes Scale: It is used in Britain and the commonwealth countries. Bartholomew sykes introduced a hydrometer which calculated that 57.1% of alcohol is equivalent to 100° proof. So 100% alcohol is equal to 175° proof.

American Scale: It is used in United States and in this system 50% alcohol is equal to 100° therefore 100% alcohol is equal to 200° proof.

Organisation Internationale de MétrologieLégale (OIML): Most countries follow OIML system. It measures the strength as percentage of volume at 20°C. OIML is same as GL which is most logical of the system.

American Whiskey: The Americans spell whisky as 'whiskey'. All American Whiskies are made from cereal (generally, a mixture of various grains of cereals), distilled mostly in patent still at no more than 90% and aged in oak barrels (except for corn whiskey which may not be aged) and bottled at not less than 40% A.B.V. The following are the types of whiskey from the U.S.A

Cognac: It is produce in the Cognac region of France in the department of Charente and Charente-Maritime and considered most famous and prestigious. Brandy produced from grapes grown in the vineyards of the delimited district of Cognac, surrounding the ancient town of Cognac, on the Charente River.Modern delimitation done in 1909, a decree was

made to protect Cognac from intimation and accordingly to get Cognac name, the spirit must be made entirely from grapes grown in the delimited region.

Grande Champagne / Grande Fine Champagne– It is the cognac produced entirely from brandies, made from the grapes grown in Grande Champagne region.

Petite Champagne –Made entirely from brandies produced from grapes grown in the Petite Champagne region.

Fine Champagne – It is the blend of brandies produced from grapes grown in Grande Champagne (minimum 50%) and Petit Champagne areas

Armagnac:Armagnac is the world's second best brandy produced in the Armagnac region of France from the Department of 'Gers', south-east of Bordeaux. The main grape varieties used in production of Armagnac are Saint -Émillion (elsewhere Ugni Blanc), Folle Blanche, Colombard and Baco Blanc (Baco A22).

White and Light Rum: It has very little flavor and is colorless. Its colorless and flavorless feature has made this variety perfect ingredient for cocktails. Most of the white rums come from Puerto Rico.

Gold Rum: It obtains its colour either while maturing in charred oak casks or from the small quantity of caramel. It is normally aged for three years. It has more flavor than white Rum.

Dark Rum: It has a strong and pungent flavor. It is aged for a longer duration (six years) in charred oak cask. It gets its dark brown colour from wood, caramel, and/or residual molasses. This rum is extensively used in cookery especially in the preparation of cakes, sweets and ice cream.

Spiced Rum: it is dark in colour, flavoured, and coloured with spices and caramel. Inexpensive white rum may be coloured with liberal caramel.

Flavoured Rum: This rum is flavoured with fruits such as orange, lime, apricot, plums, banana, coconut etc.

Neutral Vodka: It is distilled from grain or potato and highly rectified. It is filtered through activated charcoal or quartz sand.

Gold: It is cask matured to get gold colour. Vodka is matured in the wooden cask to derive olden colour from the wood.

Flavoured Vodka: It is flavoured with various spices, herbs, and fruits, e.g. Absolut – Citron, Mandrin, Pepper, Apeach, and Vanilla.

JovenAbogado : The word literally means 'young and adulterated'. It is not 100% agave and it is not aged. It is an example of mixto.

Blanco (White): It is tequila without aging and it is very clear, without any colour. Some blancos are kept for a little time in wax lined oak or stainless steel containers, which reduce the harshness that is very common with blancos. They are also called plata (Silver).

Reposado (**Rested/Aged**) : It is aged in oak casks for a period of two months to one year. The same cask used for maturing Bourbon whiskey may be used for aging tequila. This process mellows the tequila and adds colour to the some extent.

Añejo (**Aged**): It is aged for minimum period of one year, but less than three years in government controlled oak casks, which add colour and mellow the spirit.

Extra Añejo (Extra Aged): It is aged for a minimum period of three years in oak casks.

4.16 REFERENCES/BIBLIOGRAPHY

- Lilicrap, D. and Cousins, J.; Food and Beverage Service; Eighth Edition, Hodder Education, London, 2010.
- Davis, B., Lockwood, A. and Stone, S.; Food and Beverage Management; Third Edition, Elsevier, New Delhi, 2008.
- Bhatnagar, S., K.; Managing Food & Beverage Operations, First Edition, Frank Brothers & Co., New Delhi, 2009.
- Bagchi, S., N. and Sharma, A.; Text Book of Food & Beverage Service, Third Edition, Aman Publications, New Delhi, 2012
- Singaravelavan, R.; Food and Beverage Service, First Edition, Oxford University Press, New Delhi, 2012.
- Dhawan, V.; Food & Beverage Service; Second Edition, Frank Brothers & Co., New Delhi, 2009.
- George, B.; Food & Beverage Service and Management; First Edition, Jaico Publications, New Delhi, 2008.
- https://india.businessesforsale.com/indian/search/pubs-for-sale/articles/tenancies-leaseholds-and-other-routes-into-pub-ownership
- https://setupmyhotel.com/job-description-for-hotels/food-and-beverage-service-job-description/362-bartender.html

4.17 TERMINAL QUESTIONS

- 1. What do you mean by term 'Spirits'? Explain with suitable examples
- 2. What are the various types of spirits?
- 3. Explain pot still method of production of spirits with suitable illustrations.
- 4. Explain patent still method of production of spirits with suitable illustrations.
- 5. What do you mean by term 'Tobacco'?
- 6. write note on:
 - a. Gin
 - b. Vodka
 - c. Rum
 - d. Tequila
 - e. liqueurs
 - f. Cigar
 - g. Cigarette
 - h. Brandy