PRODUCTION MANAGEMENT:

Kitchen Organisation - Done in first semester

Allocation of Work - Job Description – Done in first semester

Production quality control:

There are a large number of factors that contribute in controlling the quality of final food product that is served in the restaurant. These include:

- Raw material quality: Standard Purchase Specifications, Yield Testing, Selection of correct supplier, Purchasing and receiving control, Correct storage and issuing.
- Quality control at the time of preparation: Standard Recipes, Correct storage and processing, Following HACCP norms, Trained and skilled staff
- Quality control at the time of service.

The topics themselves are very descriptive that have already been covered in previous semesters. Kindly elaborate as required.

Production quantity control: Portion control and overall the quantity of food produced in the kitchen is a very important part of food production. There is a large cost involvement in the process and food is a highly perishable commodity. It thus becomes critical to be able to serve whatever the guest demands from the menu (Nothing NA) and still be able not a waste any food. Forecasting is thus important. It is also important to maintain portion control i.e. how much of food – number, weight etc is one portion. One must follow standard recipes for reconfirming the norms. Various equipments that help in portion control are: standard portion sized entrée dishes or platters, ladles, measuring glasses, vending machines that pour a set quantity only etc.

Yield Management – Yield is defined as the edible usable part of a food item / raw material, which is available after preparation / pre preparation and cooking.

A standard yield is the yield obtained when a raw item is processed as per the particular standard methods of preparation, cooking and portioning of an establishment.

OBJECTIVES

- To establish a standard for the quantity and number of portions obtainable from a specific item of food.
- To establish a standard for comparison with operating results and thereby measure the efficiency of the production departments.
- To establish an objective method of further evaluating standard purchasing specifications.
- To establish a standard cost factor for the item of food.
- To assist in menu costing and pricing.
- To assist in converting forecast requirements into raw material requirements.

IMPORTANCE OF YIELD

Yield testing and yield factors are important for ant establishment for the following functions:

- To determine product pricing.
- To set purchase specifications and receiving standards.
- To forecast purchase quantity and ordering levels.
- Establishing standard recipes and portion size.
- For setting control standards.
- Comparison of vendor prices and quality.
- Monitoring the usage of raw materials.

YIELD PERCENTAGE / FACTOR:

Yield percentage or yield factor is defined as the percentage of the whole purchase unit of an item that is available for portioning after any required processing has been completed.

This percentage or factor is calculated by dividing the portionable weight by original weight of the item before processing.

$$\text{Yield percentage} = \frac{\textit{number of portions x unit portion size x 100}}{\textit{Purchase quantity}}$$

YIELD TEST

A yield test is performed on each item with respect to the product that needs to be made from that item. Yield testing is defined as a technique to determine the number of portions produced after the required processing has been performed. These processes may include trimming, butchering, cutting, cooking or some combination of these. During these processes fat, bone and other inedible or unnecessary parts are removed. Also in some cases (roasts, for example) fat is removed by melting during cooking process.

All these processes result in weight loss and thus the quantity available for portioning / serving weighs less than the quantity originally purchased. For effective yield testing, it is important to weigh the item after each set of process is completed. The two important parts of yield testing are –

BUTCHER'S TEST - The butcher's test, as the name states is mainly done for meats, fish and poultry purchased as wholesale cuts. Butcher's test is conducted under the supervision of the chef and food controller. The butcher will cut the item down into respective parts and start to process them as per the standard portion sizes. All the parts, usable and non usable are weighed and noted. The total weight of all parts must be approx. equal to the weight of the whole. The difference if any is noted down as a loss in cutting.

$$\text{Butcher's yield: } \frac{\textit{Weight of meat after butchering x 100}}{\textit{Weight of meat as purchased}}$$

COOKING LOSS TEST: When conducting the cooking loss test, it is important to note down the weight of the item available before cooking, i.e., after all the trimming, cutting and removing of fat (if any). Then the item

is cooked as per the standard procedure and the weight of the item is noted down. If the standard recipe requires the bone and cooked fat to be removed then the item is again weighed after final portioning is done and this is recorded as salable weight. This salable weight is also called the final yield or the portion size / weight of the item.

Factors that are involved in yield testing –

- Purchase weight – the weight of the raw material as purchased to a known standard and as per specifications.
- Usable weight – that weight of the item that is available for cooking or further processing after all the unusable and inedible parts are removed. Mainly applies to meat, fish, and poultry and in some cases to fruits and vegetables.
- Cooked weight – weight of the item after it has been cooked as per standard procedure.
- Saleable weight – the unit weight / quantity which is served.

Forecasting and Budgeting –

Forecasting – The chef must be able to produce accurate estimates of the volume of production. This is done by referring to the following data -

a) Previous year's sales during the same period.
b) Sales forecast from the food and beverage department
c) Orders already placed for banqueting
d) Room bookings of the hotel
e) Festivals / trade fairs / sporting events in the city.
f) His personal experience

Production Planning –Once the forecasting is done, the chef arrives at an approximate number of portions that are to be prepared. He then plans as to how, when and where the work is to be done. E.g.Certain dishes require elaborate mise-en-place. Some other may require only the trimmings. It is more sensible to have precise cuts and use the trimmings elsewhere when

required rather than throwing the trimmings and reusing a fresh ingredient to cut them out. Similarly certain dishes require lengthy cooking while other are quickly done. Hence, the work needs to be planned to yield efficiency and quality.

Production Scheduling – This refers to making a time frame of various short-term targets to be able to give ready food at the right time as per guest's demands. Scheduling tells the chef if the work is happening as planned or not. It also helps to determine who is responsible for which task and if it is being completed in time.

PRODUCT & RESEARCH DEVELOPMENT

Testing new equipment: New equipments are to be tested for efficiency, durability and maintenance requirements. Most equipments come with a service manual that helps in guiding the user to service the equipment regularly so as to prevent major breakdowns. A maintenance schedule should be maintained and each equipment should be used and maintained as per the guidelines of the manufacturer.

Criteria & Procedure for selection of equipments: The food service consultant must accurately estimate the capacity of each of the various types of kitchen equipment to be used. Too low capacity will result in delays and too high will result in expensive and inefficient equipment. Then an estimation of total number of portions must be made and portion sizes fixed. Once we arrive at the volume of food to be prepared, the method of preparation must be determined i.e. Items individually prepared to order, items prepared in small batches, items prepared in large batches and items that are partially batch prepared and finished when orders are received**.** At this stage the consultant is able to determine the **usable capacity** of equipment to be purchased considering minor future variations. Apart from this following must also be considered:

- ✓ Price of equipment
- ✓ Ease of installation
- ✓ Ease of maintenance and operation

- ✓ Safety
- ✓ Ease of usage and cleaning
- ✓ Attractiveness
- ✓ Source of supply

Developing new recipes: One of the very important task in the modern ever changing demands of customers is to keep on renovating the menu. Hence before a dish is introduced on the menu, it must be tried and tested and the improvements required should be incorporated in it before standardization. Food Trials are thus testing the dishes prepared by chef by a panel of judges, a selection of customers or general public to take opinion, evaluation on various parameters and suggestion so as to improved and finally standardize the recipe and presentation

Testing new recipes may be done in various steps:

- Analysis by the management or internal customers
- Analysis by general public
- Analysis by a team of experts.

Sensory analysis: Sensory analysis (or sensory evaluation) is a scientific discipline that applies principles of experimental design and statistical analysis to the use of human senses (sight, smell, taste, touch and hearing) for the purposes of evaluating consumer products. The discipline requires panels of human assessors, on whom the products are tested, and recording the responses made by them. By applying statistical techniques to the results it is possible to make inferences and insights about the products under test. Most large consumer goods companies have departments dedicated to sensory analysis.

Sensory analysis can mainly be broken down into three sub-sections:

- Effective testing (dealing with objective facts about products)
- Affective testing (dealing with subjective facts such as preferences)

- Perception (the biochemical and psychological aspects of sensation)

a) effective testing - This type of testing is concerned with obtaining objective facts about products. This could range from basic discrimination testing (e.g. Do two or more products differ from each other?) to descriptive profiling (e.g. What are the characteristics of two or more products?). The type of panel required for this type of testing would normally be a trained panel. Methods for collection and statistical analysis of sensory data include Free choice profiling and generalized analysis.

b) Affective testing - Also known as consumer testing, this type of testing is concerned with obtaining subjective data, or how well products are likely to be accepted. Usually large (50 or more) panels of untrained personnel are recruited for this type of testing, although smaller focus groups can be utilised to gain insights into products. The range of testing can vary from simple comparative testing (e.g. Which do you prefer, A or B?) to structured questioning regarding the magnitude of acceptance of individual characteristics (e.g. Please rate the "fruity aroma": dislike|neither|like

c) Perception - Perception involves the biochemical and psychological theories relating to human (and animal) sensations. By understanding the mechanisms involved it may be possible to explain why certain characteristics are preferred over others.

Organoleptic — relating to the senses (taste, sight, smell, touch) — is a term also used to describe traditional USDA meat and poultry inspection techniques, because inspectors perform a variety of such procedures (involving visually examining, feeling, and smelling animal parts) to detect signs of disease or contamination. These inspection techniques alone are not

adequate to detect invisible food borne pathogens that now are the leading causes of food poisoning.

Organoleptic tests are sometimes conducted to determine if package materials and components can transfer tastes and odour to the food or pharmaceutical products that they are packaged in. Shelf life studies often use taste, sight, and smell (in addition to food chemistry and toxicology tests) to determine whether a food product is suitable for consumption.

DEVELOPING NEW RECIPES, ASSESSING AND TESTING

The process of standardization of recipe refers to recipe that has been tried out, sampled, written down and photographed.

Processing instructions:

- Standardizing the recipes which act as blue prints for the product.
- The recipes formulated must be such that it can be followed at any period of operations and the dishes thereby produced must be uniform every time it is served.
- The quantity of ingredients to be produced must be mentioned in proper units without any ambiguity.
- The procedure for preparation must be clearly mentioned with the with the cooking time(s) and temperature, related colour and texture changes etc.

Essentials of a standard recipe:

- The exact amount of each of the ingredients to be used are clearly mentioned
- The ingredients used must be listed in order and not in a haphazard condition
- Proper and simple technology must be used while writing down the procedure

- The cooking time and temperature required for each process must be mentioned clearly.
- Portion size and the exact yield of the recipe must be tested and categorically stated.
- The procedure must be written down sequentially one after the other and not in a disorderly fashion.

It is extremely necessary to have right standard recipe and it should be written down categorically so that whosoever prepares the food gets a proper idea about the quality parameters of the dish. Lack of standard recipe will result in the lack of uniformity and the dishes would be prepared according to individual judgement. Standard recipes are also a tool of sound basis for determining portion costs. This information is must for **internal control system.**

Kitchen tests:

Testing of recipes may be considered as a kitchen test. The purpose of the test is to determine the amount of usable food in relation to quantity purchased.

The results may be used for the following purposes:

1. To determine the portion costs. This is a necessity on a continuous basis.
2. Purchasing data - this will be the basis for the quantity to be purchased for the given number of portions.
3. Determining the best methods of preparation ensuring proper cooking time and temperature etc.

4. Basis for specification of the best yield.
5. Testing adherence to established specifications on continuous basis. This is important to ensure that the set parameters are followed and there are no deviations. This helps in better quality control.

6. Checking how well the employees follow the standard recipes and procedures. The awareness level of the kitchen employees and their working standards can be checked through this.
7. This can also serve to understand the level of expertise of the kitchen employee.