5- Quality control

Quality Control (QC) may be defined as "a system that is used to maintain a desired level of quality in a product or service". It is "a systematic control of various factors that affect the quality of the product".

According to **Juran** "**Quality Control** is the regulatory process through which we measure actual quality performance, compare it with standards, and act on the difference".

The objectives of quality control:

1. To improve the companies income by making the production more acceptable to the customers, i.e., by providing long life, greater usefulness, maintainability etc.
2. To reduce companies cost through reduction of losses due to defects.
3. To achieve interchangeability of manufacture in large scale production.
4. To produce optimal quality at reduced price.
5. To ensure satisfaction of customers with productions or services or high quality level, to build customer goodwill, confidence and reputation of manufacturer.
6. To make inspection prompt to ensure quality control.
7. To check the variation during manufacturing.

Steps of Quality Control Process:

1. Formulate quality policy.
2. Set the standards or specifications on the basis of customer's preference, cost and profit.
3. Select inspection plan and set up procedure for checking.
4. Detect deviations from set standards of specifications.
5. Take corrective actions or necessary changes to achieve standards.

6. Decide on salvage method i.e., to decide how the defective parts are disposed of, entire scrap or rework.

7. Coordination of quality problems.

8. Developing quality consciousness both within and outside the organization.

9. Developing procedures for good producer and customer relations.

Types of Quality Control:

QC is not a function of any single department or a person. It is the primary responsibility of any supervisor to turn out work of acceptable quality. Quality control can be divided into three main sub-areas, those are:

1. Statistical process control

2. Off-line quality control

3. Acceptance sampling plans.

1- Statistical Process control SPC On-line**:**

It also involves determining whether a process can produce a product that meets desired specification or requirements. On-line SPC means that information is gathered about the product, process, or service while it is functional. The corrective action is taken in that operational phase. This is real-time basis.

2- **Off-line quality control:** Its procedure deal with measures to select and choose controllable product and process parameters in such a way that the deviation between the product or process output and the standard will be minimized (test product after production before marketing to the customer).

3- Acceptance sampling plans: A plan that determines the number of items to sample and the acceptance criteria of the lot, based on meeting certain stipulated conditions (such as the risk of rejecting a good lot or accepting a bad lot) is known as an acceptance sampling plan.