Quadrant II-Notes

Paper Code:	DSE5COD118
Module Name:	Determination of Economic Batch Quantity

ECONOMIC BATCH QUANTITY

The Economic Batch Quantity is very similar to Economic order Quantity. But, there is only one difference i.e. Economic Batch Quantity is calculated to fix the level of production at minimum cost but Economic Order Quantity is calculated to fix the level for ordering the purchase of raw materials, stores and spares.

The following points are considered while fixing the Economic Batch Quantity.

- 1. Annual demand for the product.
- 2. Setting up of cost.
- 3. Manufacturing cost.
- 4. Rate of consumption.
- 5. Storage costs.
- 6. Interest on capital.
- 7. Times lag between production and consumption of product.

If the machines are set up for production frequently, certainly, the set up cost will be high. If the size of batch is large, automatically, the storage cost will be high. Hence, there is a need of Economic Batch Quantity.

Definitions:

According to Basu & Das – "EBQ is the Optimum batch size for the manufacture of an item or component, at the lowest cost. It is also mentioned that the batch size is a tradeoff between unit costs that increase with butch size and those that decrease."

In the words of Charles T.Horngren -

"EBQ is an inventory-related equation that determines the optimum order quantity that a company should hold in its inventory given a set cost of production, demand rate, and other variables."

Calculation of EBQ

The Economic Batch Quantity (EBQ) is worked out by applying the following formula:

 $\mathrm{EBQ} = \sqrt{[(2^*\mathrm{U}^*\mathrm{S}) \,/\,\mathrm{C_C}]}$

Where U = Total number of units to be produced in a year,

S = Set-up cost per batch

 C_C = Carrying cost per unit of production for one year