Preface to the Notes

This notes has been prepared for the benefit and use of CA Final students. Other Professional Course students can also use the material for respective topics of their syllabus. Being notes, the topics have been condensed and are presented in a synopsis manner. Yet, they cover the complete issues involved in respective topics and give the reader good understanding of the subject. This has been prepared for the ease of students preparing for Examinations. The issues have been explained in simple language supported by examples as well. If students desire to have more in-depth knowledge on any topic(s) then they need to refer relevant Text Books.

This paper of the CA Final course had substantial change in the contents and syllabus as compared to the erstwhile Advanced Management Accounting. There is a marked shift from more of the earlier Figure Work to Theory and Figure work in current syllabus. The syllabus has included more of the practical aspects of Management Accounting and Performance Evaluation with Case Studies. To answer practical cases, a student needs to have:

- Thorough understanding of the Theory;
- Application of theoretical knowledge to Practical business scenarios for solutions: and
- Figure work analysis.

In this part, only theory has been considered.

I hope this notes will be of good use to students.

Readers are requested to mail suggestions and feed back to ram_pv@rocketmail.com for improving the contents.

Good wishes and Happy Reading
P V Ram

CHAPTER 7: Pricing Decisions

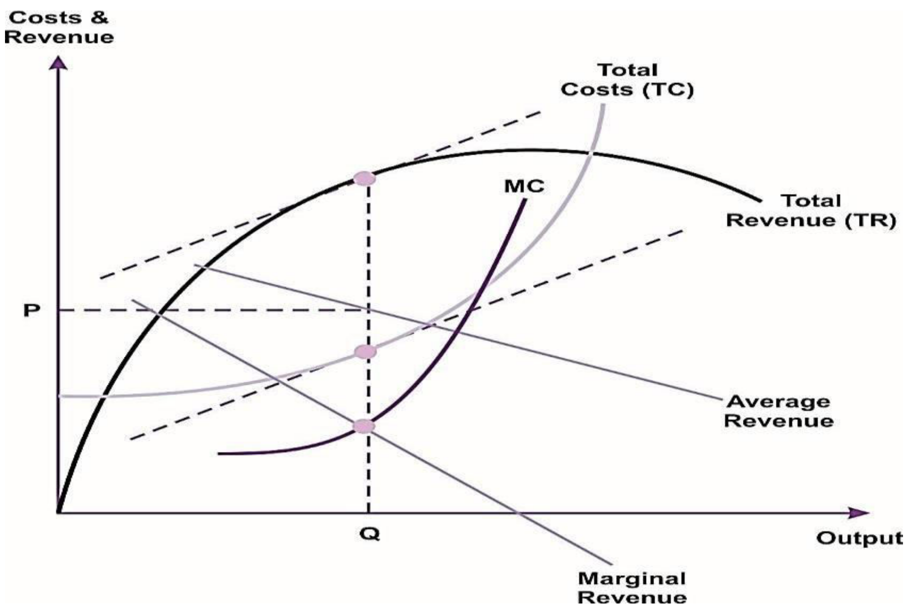
Broad Contents of the Chapter are:

1. Pricing Principles
2. Pricing Policies
3. Pricing Methods

Pricing Decision is one of the most Crucial & Difficult decision a Firm has to make as such decision affects the long term survival of the Firm itself. Generally Pricing Decisions depend on the Pricing Policy followed by the Firm. Policies of the Firm depend on the Firm's Objectives like Maximisation of Profits, Maximisation of Sales, Maximisation of Production, Optimum Utilisation of Resources etc.

Theory of Price

Optimum price is the price at which profits are maximum (i.e. Total Revenue - Total Cost). Basic assumption of the theory is a Firm intends to maximise profits by considering Cost and Demand functions. Usually, the Total Revenue and Total Cost lines on a graph will be in the form of curves and not linear. This is because to sell higher quantities, a Firm has to reduce prices by offering discounts etc. In case of Costs also, as the volume increases, economies of scale come into play and Cost / Unit tends to decrease upto certain level and thereafter again it increases as with limited resources the Firm has to generate higher volumes. Volume will be fixed at a point where the gap between Total Revenue and Total Cost curves is maximum. Following figure illustrates the principle.



At point Q, the gap between total revenue and total cost is maximum and at this volume Firm fixes its level of activity to maximise Profits. Any further increase in Volume will lead to reduction in profits.

Profit Maximisation takes place where Marginal Revenue equals Marginal Cost. **Marginal Revenue and Marginal Cost** are the change in Total Revenue and Total Cost respectively due to increase or decrease of volume by One Unit.

The **Basic Price Equations** are:

Price (P) = a – bQ and

Marginal Revenue (MR) = a – 2bQ

Where: a = Price at which demand is Zero
b = Slope of Demand Curve = $\frac{\text{Change in Price}}{\text{Change in Quantity}}$ and
Q = Quantity

For **Profit Maximisation**:

Marginal Revenue = Marginal Cost

Pricing Under Different Market Structures:

A. **Perfect Competition** is a scenario where there will be **Large Number of Sellers** selling **Homogenous** product using similar production process and having **Perfect information** about Market and Price (eg. Petrol, Diesel etc). Perfect market allows Free Entry and Exit of Firms into and out of industry. In this scenario, sellers have no role in fixing the price. They have to accept the Market price and can sell as much quantity as they can at that price. Attempts to increase price will lead to Loss of all Market and Attempt to Decrease price will lead to inability to supply. Volume can be increased as long as Marginal Cost equals Sale Price.
B. **Monopoly** is a scenario where a **Single seller** sells a **Homogenous** product which has **no close substitute** required by **many buyers**. In this scenario, the Firm will be the Price Setter. The Firm cannot set the price at its free will. It has to consider the Elasticity of Demand for the product to Maximise Profits.

   Price Elasticity of Demand: Elastic Demand for a good means that a price increase / decrease of certain percentage will result in lower / higher demand by more than that percentage. Similarly, inelastic demand occurs when a price change of certain percentage will result in lesser demand by less than that percentage i.e., change in price will not have significant change in demand.

Price elasticity of demand = $\frac{\%\ \text{Change in Qty.demanded}}{\%\ \text{Change in price}}$

When elasticity of demand is **between 0 & 1** it implies demand is **inelastic** i.e., a fall in price results in less than proportionate increase in demand and thus revenue falls.
When elasticity of demand is **1**, it implies that increase in price will lead to exact proportionate decrease in demand in such a way that **Total Sales Revenue remains Constant** and vice versa.
When elasticity of demand is **greater than 1**, it implies demand is **elastic** i.e., demand changes at a proportionately higher rate than the rate of price change.

C. **Monopolistic Competition** is a scenario where large number of Firms sell Similar but not Identical Products (eg. Mobile Phones of different kinds). The excess profits earned by a Firm will attract competition. Consumers prefer to buy at lower price than at higher price. Profit can be maximised by equating Marginal Revenue with Marginal Cost.

D. **Oligopoly** is a scenario where there are **Few Firms selling Homogenous or Identical Products**. In this type of market firms are aware of the mutual interdependence of investment, production process, advertising and sales plan of its rival firm. Hence, any change in any variable by a firm is likely to have an equal reaction on the part of other competing firms. It is therefore, clear that the oligopolistic firm, while determining the price for its product, consider not only the demand for the product but also the reactions of the other firms in the industry to any action or decision it may take. If a firm does not follow or adapt its pricing policy in consonance with its competitor, the shift in the sales will be sensitive. That means demand will shift towards the lower price. The firms in oligopolistic market maintain the price of the product either by close analysis of each other's behavior or by means of cooperation and collusion. (eg. Mobile Networks, Entry level cars, Retail Chain Stores etc.)
Non Price competition is the favoured strategy of Oligopolists since price competition can lead to destructive price wars. Examples are:
- Offering extended after sales services and warranties
- Offering Quality products
- Advertising Campaign
- Framing Loyalty Schemes
- Framing schemes such as buy 1 get 1 etc.

Pricing Policy

Pricing has an important role in business. Long run survival of a business depends on the Firm's ability to increase its sales and derive maximum profits from the current as well as future investments. Eventhough Cost is an important factor for pricing, Demand and Competitive environment play a larger role in fixation of price. For long term sustenance, a Firm should not only cover total costs, but also should make profits to ensure capital remains unimpaired and replacement of assets takes place as per requirement. Pricing policy should consider following factors:

- Provide an incentive to adopt improved technology;
- Encourage optimum utilisation of resources;
- Work towards balance between Demand and Supply;
- Avoid adverse affect on the rest of the economy;
- Promote Exports etc.

<u>Principles of Product Pricing</u>

The important determinants of price are Competitive environment prevailing in the market, Elasticities of the product, Demand of the product and Cost of the product. The pricing principles happen to be same whether a product is a new one or the one that is well established. To arrive at the right price following issues are to be considered:

Price Customisation: Price of a product is customized keeping in view the taste, perceived value, preference of a consumer etc. into consideration. Customization is done through:

a. The Product Line: like Memory size (32 GB or 64GB), speed of RAM (4 GB or 8GB) etc. for mobiles, Quantity (100ml bottle or 200ml bottle) for cool drinks etc.
b. Customer's past Behaviour: Prompt payment customers may be offered discounted prices.
c. Demographics: Senior Citizens may be given concessions as in Railways, I T Dept. etc.
d. Based on time differentials: Early and Timely filing of Returns attract discounts and late filings attract Penalties.

Legal and Regulatory frameworks are also to be kept in mind while fixing the price.

Price Sensitivity: Price sensitivity is the change in demand due to change in price. Following factors contribute to Price Sensitivity:

a. Unique Value of the Product: More unique is the product, Price Sensitivity will be less.
b. Substitute Awareness: Sensitivity will be High when Substitutes are readily available.
c. Difficult to Compare: Sensitivity will be Less when it is difficult to compare.
d. Total Expenditure Effect: If the portion of the product is minute in the total consumer income of the consumer, it will be less elastic.
e. End Benefit Effect: Sensitivity will be Less when Buyers expenditure on the product is low when compared to total expenditure.
f. Shared Cost effect: Sensitivity will be Low when buyer shares the

expense with others.

g. Sunk Investment Effect: Sensitivity will be Low in case of products that are used in the assets already bought earlier.
h. Price – Quality Effect: Sensitivity will be low when Buyers perceive the Quality of the product to be High.
i. Inventory Effect: Sensitivity will be less in case of products that cannot be stored.

Commonly used method for **Testing Sensitivity** is Controlled Experimentation I. e. Price changes and their corresponding effects on demand are experimented in select areas and results are studied before they are applied fully.

Pricing Methods

Competition, Demand and Cost are the 3 important factors that determine the Pricing Method to be adopted by a Firm. The methods of Pricing are as below:

A. **Cost based Pricing Method**: Under this method, the Full Cost of the product including Overheads is ascertained and to this Desired Margin is added to arrive at the Price. Since it is difficult to apportion Fixed Overheads to individual products, at times, to the Variable Cost Desired Margin is added in such a way that even Fixed Overheads are recovered. This Method of Pricing has 2 Limitations:
   a. Allocation of **interdepartmental overheads** happens on arbitrary basis.
   b. To allocate overheads, **Normal Capacity** is to be determined, which again cannot be done Accurately.

B. **Competition based Pricing Method**: Competition is one of the important factor that determines Price. A Firm may fix its products prices based on competitors prices. The price need not be the same as what the competitor is charging. It can be more or less. Further, a Firm changes its Price when competitors change their Price. Different types prevailing under this method are:
   a. **Going Rate Pricing**: The Firm may fix the price of its product based on the average price prevailing in the industry. This will be possible in case of Homogenous Products where the Firm has little choice in fixing the Price. This will be helpful when it is difficult to measure costs. Further, this method assures fair return on the product and will be least disruptive to the industry. This happens in case of Pure Oligopoly Market. (eg. Food, Raw Materials, Textiles etc.)
   b. **Sealed Bid Pricing**: This happens in case of Firms competing with one another to secure a contract as in the case of Defense Cotracts or O E M Contracts (Original Equipment Manufacturer). Each competing party will be interested to secure the contract. So they quote as low possible. Quoting low would mean loss of

possible profits and quoting high may result in loss of contract itself. Further, a Firm cannot quote low beyond a certain level as it will not be able to recover the costs at that price. In any case the Firm cannot quote below than its Marginal Cost even if it wants to keep the plant busy.

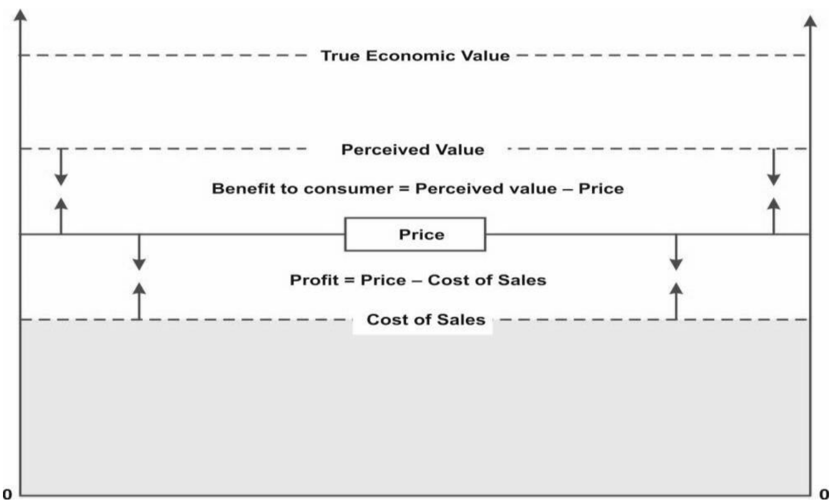
C. **Value Based Pricing Method**: There is an increasing trend to fix the Price based on the value a customer perceives for the product. This will reduce the possibility of price wars. To fix price under this method good Market Research is required.

   a. **Objective Value or True Economic Value (TEV)** is the benefits that a product is intended to deliver to consumers relative to a similar product in the market without considering the fact that customer recognises the benefits or not.

   TEV = Cost of Next Best Alternative + Value Performance Differential

   Cost of next best alternative can be easily found from market. To this value, performance differentials are added (Value of Favourable features) or deducted (Value of Unfavourable features) to arrive at the Price.

   b. **Perceived Value**: This is Value that a customer expects the product to deliver. This is the price that a customer is willing to pay for the product. Fixing the Price below the perceived value and above the Cost of Goods Sold will be beneficial to both Buyer and Seller. Following figure indicates the scenario.



Pricing in Periods of Recession: During Recession, a firm may sell the products at less than its Total Cost but above the Marginal Cost. This will help the Firm in the following ways:

a. Not to lose its skilled and trained employees to others;
b. Not to lose its customers to others;
c. To ensure plant does not get rusted;

d. To put itself in a Ready condition to take advantage when market improves.

There should not be any drastic Price reduction and the period of reduction also should be short. i.e, Reduced price orders should not spill to the period when recession ends.

Pricing Below Marginal Cost: A Firm may sell the products below Marginal Cost for a Limited Period in case of the following conditions:

a. Materials are of perishable nature;
b. To popularise a new product;
c. When large quantities have got accumulated and prices have fallen. Selling will save carrying cost.
d. When such reduction results in boosting the sale of other products with greater margins.

Strategic Pricing of New Products:

Pricing of NEW products is a critical issue. Pricing of NEW products poses bigger problem because of the uncertainty in Demand. Price is to be ascertained after thorough Market Study and Consumer Behaviour Analysis. A Firm may conduct trial by choosing different markets for sale with same promotional expenses of the product and observe the Demand and Price behaviour of the product. Largest per unit contribution may not necessarily result in Largest Profit because of Volume factor. New products may be of 3 categories:

Revolutionary Product: A product is said to be Revolutionary when it is new to the market and is capable of creating its own value. These type products create Revolutionary impact in the market and consumer behaviour. They replace existing technology with new technology and become unique. Revolutionary products enjoy **Premium Price** because of their uniqueness, innovation and for taking the first initiative.

Evolutionary Product: These products are the once which are upgraded versions having some additional features of existing products. Pricing is to be done taking into effect competitor action, cost benefit analysis and demand for the product.

Me-Too Product: A product is said to be Me-Too when its emergence is the result of a success of a Revolutionary Product. Me-Too products are Price takers as their Price is determined by competitive forces.

When a product is being newly introduced, Management has to decide whether they need to adopt Skimming Price or Penetration Price which have following features:

Skimming Price: This is a policy where high prices are charged in the initial stages and later on reduced gradually. Reasons for this are:

a. Demand will be inelastic in the initial stages till the product is established.
b. To recover the high R&D, Market Survey, Advertisement and Production expenses incurred in the earlier stages.

c. Charging of high prices in the initial stages helps to skim the cream of the market which is insensitive to price.
d.

Penetration Pricing: This is the opposite of Price Skimming. In the initial periods Low prices are charged and thereafter gradually increased as product stabilizes. This policy is adopted for long term Profitability and sustenance of the Firm. This helps in capturing of the mass market. The Firm may price the product at its variable cost or little higher than that to popularise the product. When the demand picks up, prices are gradually increased. This policy can be adopted at any stage of the product life cycle. Low price will act as threat to new entrants and also to competitors. However, this is to be followed as a short term measure only and in the long term Firm should aim to recover total costs with fair margin to ensure the capital is intact and Firm can sustain. This pricing can be adopted in the following 3 scenarios:

a. Demand for the product is Elastic.
b. When substantial economies of scale can be attained in mass production.
c. Threat of competition.
d. To reach quick Growth and Maturity stages by cutting short introduction stage.

Predatory Pricing is different from Penetration Pricing. In case of Predatory pricing, firm will sell at less than Variable Cost also to ward off competition – Either existing or potential.

Pricing and Product Life Cycle:

Introduction Stage	Growth Stage	Maturity Stage	Decline Stage
▪ *Skimming Policy*, but low profit margin due to high fixed costs.	▪ Reduce price to penetrate market further.	▪ Price to match or beat competitor.	▪ Cut price if not repositioning.
▪ *Penetration Policy* to enter the market and gain a high share quickly or to prevent competitors from entering		▪ Retain higher prices in some market segments.	▪ Some increases in prices may occur in the late decline stage.

Price Adjustment Policies: Having set the price, there may be a necessity to reduce the price to respond to competitors actions or customer preferences or for the purpose of Price Discrimination. This is done in the following ways instead of directly reducing the price:

a. Distributor's Discounts
b. Quantity Discounts
c. Cash Discounts

d. Geographic Pricing
e. Price Discrimination: This will be possible when:
   - The market can be segmented;
   - Resale is not possible;
   - Competitors' do not undersell.

Sensitivity Analysis in Pricing: Sensitivity Analysis is an important tool that helps in fixation of prices. Product pricing decisions must be balanced against Costs, Competition, and Demand. Sensitivity Analysis will be done on the model developed to ascertain the impact of various parameters on the bottom-line. The parameters that are usually considered are:
Market Demand
Market Price
Exchange rate Fluctuation
Raw Material Prices
Production Costs etc.

Pricing of Services: Pricing of Services is typical one requiring special procedure. Usually these are tailored to customer's needs. So, each type of service may require different method. Certain services require the participation of customer as well. There are certain services that are regulated by Government like Education, Communication, Transport, Health care etc. Some services may be regulated by respective Trade Associations or Professional Bodies or other Institutions that frame guidelines with respect to the fee that can be charged.