

PRICING DECISION

BASIC CONCEPTS & FORMULAE

4.1 Role of Pricing Policy

The pricing policy plays an important role in a business because the long run survival of a business depends upon the firm's ability to increase its sales and device the maximum profit from the existing and new capital investment. Although cost is an important aspect of pricing, consumer demand and competitive environment are frequently far more significant in pricing decisions. Thus costs alone do not determine prices. Cost is only one of the many complex factors which determine prices. There must however, be some margin in prices over total cost if capital is to be unimpaired and production maximised by the utilisation of internal surplus.

4.2 Principles of Product Pricing

As already stated cost should not be considered as an important determinant of price. The tendency should be to lower the price in such a way so as to choose a right combination of price and output to maximise profits. The important determinants of price, therefore, are competitive situations prevailing in the market and elasticities. Taking the standard products into consideration, the pricing principles are much the same whether the product is a new one or the one already well established in the market. However the environmental situation and information base are different.

4.3 Pricing of Finished Product

4.3.1 Cost plus pricing: In many business the common method of price determining is to estimate the cost of product & fix a margin of profit.. The term 'cost' here means full cost at current output and wage levels since these are regarded as most relevant in price determination .In arriving at cost of production, it is necessary to determine the size of the unit whose products are to be costed and priced. In order to frame a price policy, one of the element that should receive consideration is the determination of normal capacity.

Advantages:

1. *Fair method*
2. *Assured Profit*
3. *Reduced risks and uncertainties*
4. *Considers market factors*

Disadvantages:

1. *Ignores demand*
2. *Ignores competition*
3. *Arbitrary cost allocation*
4. *Ignores opportunity cost*
5. *Price-Volume relationships*

4.3.2 Rate of Return Pricing: Determination of return on capital employed is one of the most crucial aspect of price fixation process. In this process instead of arbitrarily adding a percentage on cost for profit, the firm determines an average mark up on cost necessary to produce a desired rate of return on its investment.

4.3.3 Variable costs pricing: variable costs which are considered as relevant costs are used for pricing, by adding a mark up to include fixed costs allocation also.

4.3.4 Competitive pricing: When a company sets its price mainly on the consideration of what its competitors are charging, its pricing policy under such a situation is called competitive pricing or competition-oriented pricing.

Different type of competitive pricing in vogue are as follows:

- (i) Going rate pricing
- (ii) Sealed bid pricing
- (i) **Going rate pricing:** It is a competitive pricing method under which a firm tries to keep its price at the **average level** charged by the industry.
- (ii) **Sealed bid-pricing** The bid is the firms offer price, and it is a prime example of pricing based on expectations of how competitors will price rather than on a rigid relation based on the concern's own

costs or demand.

4.3.5 Incremental pricing: Incremental pricing is used because it involves comparison of the impact of decisions on revenues and cost. If a pricing decision results in a greater increase in revenue than in costs, it is favourable.

4.4 Meaning of Pricing Strategies

Pricing strategy is defined as a broad plan of action by which an organisation intends to reach its goal. Some illustrative strategies are:-

- Expanding product lines that enjoy substantial brand equity
- Offer quantity discounts to achieve increase in sales volume.

4.5 Market-Entry strategies

While preparing to enter the market with a new product, management must decide whether to adopt a skimming or penetration pricing strategy.

4.5.1 Skimming pricing: It is a policy of high prices during the early period of a product's existence. This can be synchronised with high promotional expenditure and in the later years *the* prices can be gradually reduced.

4.5.2 Penetration pricing: This policy is in favour of using a low price as the principal instrument for penetrating mass markets early. It is opposite to skimming price. The low price policy is introduced for the sake of long-term survival and profitability and hence it has to receive careful consideration before implementation Penetrating pricing, means a pricing suitable for penetrating mass market as quickly as possible through lower price offers. This method is also used for pricing a new product.

4.6 Price discounts and differentials

4.6.1 Distributors' discounts: It means price deductions that systematically make the net price vary according to buyer's position in the chain of distribution. These discounts are given to various distributors in the trade channel e.g., wholesalers, dealers and retailers.

4.6.2 Quantity discounts: Quantity discounts are price reductions related to the quantities purchased. It may take several forms. It may be related to the size of the order which is being measured in terms of physical units of a particular commodity.

4.6.3 Cash Discounts: Cash discounts are price reductions based on promptness of payment. It is a convenient device to identify and overcome

bad credit risks.

4.6.4 Time differentials: Charging different prices on the basis of time is another kind of price discrimination.

Time differentials can be classified under the following heads.

- (i) **Clock-time differentials:** The price differentials are known as clock-time differentials when different prices are charged for the same service or commodity at different times within a 24 hour period.
- (ii) **Calendar-time differentials:** Here price differences are based on a period longer than 24 hours.
- (iii) **Geographical price differentials:** It refers to price differentials based on buyers location.
- (iv) **Consumer category price differentials:** Price discriminations is frequently practised according to consumer categories in the case of public utilities,

4.7 Price Discrimination: Price discrimination means charging different prices and it takes various forms according to whether the basis is customer, product, place or time. These are illustrated as under:

4.7.1 Price discrimination on the basis of customer: In this case, the same product is charged at different prices to different customers. It is, however, potentially disruptive of customer relations.

4.7.2 Price discrimination based on product version: In this case, a slightly different product is charged at a different price regardless of its cost-price relationship. If, for example, a table with wooden top can be sold at Rs. 400, a table with sunmica top costing Rs. 175 extra is sold at Rs. 575. The higher premium in the latter case does not necessarily reflect the higher production cost.

4.7.3 Price discrimination based on place: An example of this method is the seats in cinema theatre where the front seats are charged at lower rates than the back seats.

4.7.4 Price discrimination based on time: An example of this method is the practice of giving off-season concession in sale of fans or refrigerators just after the summer season.

4.8 Geographic Pricing Strategies:

In pricing, a seller must consider the costs of shipping goods to the buyer. These

costs grow in importance as freight becomes a larger part of total variable costs. It includes:

4.8.1 Point-of-Production Pricing: In a widely used geographic pricing strategy, the seller quotes the selling price at the point of production and the buyer selects the mode of transportation and pays all freight costs.

4.8.2 Uniform Delivered Pricing: Under uniform delivered pricing, the same delivered price is quoted to all buyers regardless of their locations.

4.8.3 Zone-Delivered Pricing: Zone-delivered pricing divides a seller's market into a limited number of broad geographic zones and then sets a uniform delivered price for each zone.

4.8.4 Freight-Absorption Pricing: Under freight-absorption pricing, a manufacturer will quote to the customer a delivered price equal to its factory price *plus* the freight costs that would be charged by a competitive seller located near that customer.

4.9 Pareto Analysis

Pareto Analysis is a rule that recommends focus on the most important aspects of the decision making in order to simplify the process of decision making. It is based on the 80: 20 rule that was a phenomenon first observed by Vilfredo Pareto, a nineteenth century Italian economist. He noticed that 80% of the wealth of Milan was owned by 20% of its citizens. The management can use it in a number of different circumstances to direct management attention to the key control mechanism or planning aspects.

4.9.1 Usefulness of Pareto Analysis: Pareto analysis is useful to:

- Prioritize problems, goals, and objectives Identify root causes .
- Select and define key quality improvement programs Select key customer relations and service programs Select key employee relations improvement programs.
- Select and define key performance improvement programs Maximize research and product development time.
- Verify operating procedures and manufacturing processes.
- Product or services sales and distribution.
- Allocate physical, financial and human resources.

Question 1

What is Penetration pricing? What are the circumstances in which this policy can be adopted?

Answer

Penetration pricing: This pricing policy is in favour of using a low price as the principal instrument for penetrating mass markets early. It is opposite to skimming pricing. The low pricing policy is introduced for the sake of long-term survival and profitability and hence it has to receive careful consideration before implementation. It needs an analysis of the scope for market expansion and hence considerable amount of research and forecasting are necessary before determining the price.

Penetration pricing means a price suitable for penetrating mass market as quickly as possible through lower price offers. This method is also used for pricing a new product. In order to popularize a new product penetrating pricing policy is used initially. The company may not earn profit by resorting to this policy during the initial stage. Later on, the price may be increased as and when the demand picks up. Penetrating pricing policy can also be adopted at any stage of the product life cycle for products whose market is approached with low initial price. The use of this policy by the existing concerns will discourage the new concerns to enter the market. This pricing policy is also known as “stay-out-pricing”.

Circumstances for adoption:

The three circumstances in which penetrating pricing policy can be adopted are as under:

- (i) When demand of the product is elastic to price. In other words, the demand of the product increases when price is low.
- (ii) When there are substantial savings on large-scale production, here increase in demand is sustained by the adoption of low pricing policy.
- (iii) When there is threat of competition. The prices fixed at a low level act as an entry barrier to the prospective competitions.

Question 2

C Ltd. and Indian company, has entered into an agreement of strategic alliance with Z Inc. of United States of America for the manufacture of personal computers in India. Broadly, the terms of agreement are:

- (i) *Z will provide C with kits in a dismantled condition. These will be used in the manufacture of the personal computer in India. On a value basis, the supply, in terms of the FOB price will be 50% thereof.*
- (ii) *C will procure the balance of materials in India.*

- (iii) Z will provide to C with designs and drawings in regard to the materials and supplies to be procured in India. For this, C will pay Z a technology fee of Rs.3 crores.
- (iv) Z will also be entitled total royalty at 10% of the selling price of the computers fixed for sales in India as reduced by the cost of standard items procured in India and also the cost of imported kits from Z.
- (v) C will furnish to Z detailed quarterly returns.

Other information available:

- (i) FOB price agreed \$510.
Exchange rate to be adopted \$1 = Rs.47.059
[Note: In making calculations, the final sum may be rounded to the next rupees]
- (ii) Insurance and freight – Rs.500 per imported kit;
- (iii) Customs duty leviable is 150% of the CIF prices; but as a concession, the actual rate leviable has been fixed at 30% of CIF.
- (iv) The technology agreement expires with the production of 2,00,000 computers;
- (v) The quoted price on kits includes a 20% margin of profits on cost to Z.
- (vi) The estimated cost of materials and supplies to be obtained in India will be 140% of the cost of supplies made by Z.
- (vii) 48% of the value in rupees of the locally procured goods represent cost of the standard items.
- (viii) Cost of assembly and other overheads in India will be Rs.2,000 per personal computer.

Required: Calculate the selling price, of a personal computer in India bearing in mind that C has targeted a profit of 20% to itself on the selling price.

Answer

Working Notes:

- 1. FOB price of dismantled kit:

FOB price of dismantled kit (in\$)	510	
FOB price of dismantled kit (in Rs.)		24,000
(\$510 × Rs.47.059)		
- 2. Cost of a dismantled kit to Z Inc.

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If Rs.120 is the S. P. of kit to Z Inc. then its C Rs.100

$$\text{Re 1} = \frac{\text{Rs.100}}{\text{Rs.120}}$$

$$\begin{aligned}\text{If Rs.24,000 is the S. P. then C. P. is} &= \frac{\text{Rs.100}}{\text{Rs.120}} \times \text{Rs.24,000} \\ &= \text{Rs.20,000}\end{aligned}$$

3. Cost of local procurements:

140% of the supplies made by Z Inc. or $140\% \times \text{Rs.10,000}^* = \text{Rs.14,000}$

*Being 50% of cost of a dismantled kit to Z Inc.

4. Landed cost of a dismantled kit:

	Rs.
FOB price	12,000
(50% × Rs.24,000) (Refer to working note 1)	
Add: Insurance & freight	<u>500</u>
CIF price	12,500
Add: Customs duty	3,750
(30% × Rs.12,500)	
Landed cost of a dismantled kit	<u>16,250</u>

5. Cost of the standard items procured locally:

48% of the cost of locally procured goods

$$= 48\% \times \text{Rs.14,000}$$

$$= \text{Rs.6,720}$$

6. Royalty payment per computer:

Let x = Selling price per unit of personal computer

y = Royalty paid per computer

Since 20% is the margin of profit on S.P. it main a margin of 25% on C.P.

Therefore we have

$$X = 1.25 (\text{Rs. } 32,250 + \text{Rs. } 150 + y)$$

$$Y = 10\% \{x - (\text{Rs. } 6,720 + \text{Rs. } 16,250)\}$$

On solving the above equations we get:

$X = \text{Rs. } 43,000$

$Y = \text{Rs. } 2003.43$ or Rs. 2,000 (Approx)

Statement showing the selling price of a personal computer in India		Rs.
A.	Landed cost of a dismantled kit (Refer to working note 4)	16,250
B.	Cost of local procurement (Refer to working note 3)	4,000
C.	Cost of assembly and other overheads per computer	<u>2,000</u>
D.	Total cost of manufacture: (A+ B + C)	33,250
E.	Technology fee per computer (Rs. 3,00,00,000 / 2,00,000 computer)	150
F.	Royalty payment per unit (Refer to working note 6)	
G.	Total cost (D + E+ F)	34,400
H.	Profit (20% on selling price of 25% o total cost)	<u>8,600</u>
I.	Selling price (per computer)	<u>43,000</u>

Question 3

Explain Skimming pricing strategy.

Answer

Skimming pricing

It is a policy where the prices are kept high during the early period of a product's existence. This can be synchronised with high promotional expenditure and in the latter years the prices can be gradually reduced. The reasons for following such a policy are as follows:

- (1) The demand is likely to be inelastic in the earlier stages till the product is established in the market.
- (2) The gradual reduction in price in the latter years will tend to increase the sales.
- (3) This method is preferred in the beginning because in the initial periods when the demand for the product is not known the price covers the initial cost of production.

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- (4) High initial capital outlays needed for manufacture, results in high cost of production. In addition to this, the producer has to incur huge promotional activities resulting in increased costs. High initial prices will be able to finance the cost of production particularly when uncertainties block the usual sources of capital.

Question 4

How Pareto analysis is helpful in pricing of product in the case of firm dealing with multi-products?

Answer

In the case of firm dealing with multi products, it would not be possible for it to analyse price-volume relationship for all of them. Pareto Analysis is used for analysing the firm's estimated sales revenue from various products and it might indicate that approximately 80% of its total sales revenue is earned from about 20% of its products. Such analysis helps the top management to delegate the pricing decision for approximately 80% of its product to the lower level of management, thus freeing them to concentrate on the pricing decisions for products approximately 20% of which is essential for the company's survival. Thus, a firm can adopt more sophisticated pricing methods for small proportion of products that jointly account for 80% of total sales revenue. For the remaining 80% products, which account for 20% of the total sales value the firm may use cost based pricing method.

Question 5

An organisation manufactures a product, particulars of which are detailed below:

<i>Annual Production (Units)</i>	<i>20,000</i>
<i>Cost per annum (Rs.)</i>	
<i>Material</i>	<i>50,000</i>
<i>Other variable cost</i>	<i>60,000</i>
<i>Fixed cost</i>	<u><i>40,000</i></u>
<i>Apportioned Investment (Rs.)</i>	<u><i>1,50,000</i></u>

Determine the unit selling price under two strategies mentioned below. Assume that the organisation's Tax rate is 40%—

- (a) 20% return on investment.
(b) 6% profit on list sales, when trade discount is 40%.

Answer

(i) Selling price to yield 20% return on investment:

	Rs.
Investment	1,50,000
After tax required ROI 20%	30,000
Tax 40%	
After tax profit $100 - 40 = 60\%$	
Pre tax profit (return) $(30,000 \div 60) \times 100$	50,000
Sales = cost + return or $1,50,000 + 50,000$	2,00,000
Number of units produced	20,000
Selling price $\text{Rs. } 2,00,000 \div 20,000 = \text{Rs. } 10 \text{ per unit}$	

Alternative solution

$(\text{Sales} - \text{cost}) (1 - \text{Tax}) = \text{ROI}$
 $(\text{Sales} - 1,50,000) (1 - 0.40) = 1,50,000 \times 20\%$
 $(0.60 \text{ Sales} - 90,000) = 30,000$
 $0.60 \text{ Sales} = 1,20,000$
 $\text{Sales} = 1,20,000 \div 0.60 = \text{Rs. } 2,00,000$
 Number of units 20,000
 Selling price $\text{Rs. } 2,00,000 \div 20,000 = \text{Rs. } 10.$

(ii) Selling price to yield 6% profit on list price.

	Rs.	Rs.
Investment		1,50,000
Let the list price be	100	
Desired after tax profit of 6%	6	
Pre-tax profit $(1 - 0.40) = 0.60 = (6 \div 0.60) =$	10	
List price		100
Discount		40
Net price		60
Profit desired		10

Cost 50

Cost of 50% = Rs. 1,50,000

Sales = (Rs.1,50,000 ÷ 50) × 100 = Rs. 3,00,000

Number of units 20,000

List selling price (3,00,000 ÷ 20,000) = Rs. 15

Discount 40%

Net price (15 × 60%) Rs. 9 per unit

Alternative solution

Let s be the list sales

[List Sales (1 – tax discount) – cost] (1 – Tax rate) = 0.60s

[s (1 – .40) – 1, 50,000] (1 – 0.40) = .60s

s = Rs. 3, 00,000

List sales price per unit is Rs. $15 \left(\frac{3,00,000}{20,000} \right)$

Net selling price per unit is Rs. 9 (Rs. 15 – 40% of 15%).

Question 6

Outline the features of penetration pricing strategy

Answer

- (i) Penetration Pricing: It is a policy of using a low price as the principal instrument for penetrating mass markets early.
- (ii) This method is used for pricing a new product and to popularize it initially.
- (iii) Profits may not be earned in the initial stages. However, prices may be increased as and when the product is established and its demand picks up.
- (iv) The low price policy is introduced for the sake of long term survival and profitability and hence it has to receive careful consideration before implementation. It needs an analysis of the scope for market expansion and hence considerable amount of research and forecasting are necessary before determining the price.
- (v) The circumstances in which penetrating pricing can be adopted are:

Elastic demand: The demand of the product is high when price is low. Hence, lower prices mean large volumes and hence more profits.

Mass Production: When there are substantial savings in large-scale production, increase in demand is sustained by the adoption of low pricing policy.

Frighten off competition: The prices fixed at a low-level acts as an entry barrier to the prospective competitors. The use of this policy by existing concerns will discourage the new concerns to enter the market. This pricing policy is also known as “stay-out-pricing”.

Question 7

S Limited is engaged in manufacturing activities. It has received a request from one of its important customers to supply a product which will require conversion of material ‘M’, which is a non-moving item.

The following details are available:

<i>Book value of material M</i>	<i>Rs. 60</i>
<i>Realisable value of material M</i>	<i>Rs. 80</i>
<i>Replacement cost of material M</i>	<i>Rs. 100</i>

It is estimated that conversion of one unit of ‘M’ into one unit of the finished product will require one labour hour. At present, labour is paid at the rate of Rs. 20 per hour. Other costs are as follows:

<i>Out-of-pocket expenses</i>	<i>Rs. 30 per unit</i>
<i>Allocated overheads</i>	<i>Rs. 10 per unit</i>

The labour will be re-deployed from other activities. It is estimated that the temporary redeployment will not result in loss of contribution. The employees to be re-deployed are permanent employees of the company.

Required:

Estimate the minimum price to be charged from the customer so that the company is not worse off by executing the order.

Answer

Relevant costs of producing one unit of the finished product

	<i>Rs.</i>
Cost of material ‘M’ (realisable value)	80
Cost of labour (Being sunk cost)	0
Out-of-pocket expenses	<u>30</u>
	<u>110</u>

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Allocated overhead is not relevant for the decision. The customer should be charged Rs. 110 per unit.

Question 8

What is Pareto Analysis? Name some applications.

Answer

Vilfredo Pareto, an Italian economist, observed that about 70 – 80% of value was represented by 30 – 20% of volume. This observation was found to exist in many business solutions.

Analysing and focusing on the 80% value relating to 20% volume helps business in the following areas.

- (i) Pricing of a product (in a multi-product company)
- (ii) Customer profitability.
- (iii) Stock control.
- (iv) Activity Based Costing (20% cost drivers are responsible for 80% of total cost)
- (v) Quality Control.

Question 9

State the general guidelines to be used in adopting a pricing policy in a manufacturing organization.

Answer

The general guidelines to be used in adopting a pricing policy are as under:

- (i) The pricing policy should encourage optimum utilization of resources.
- (ii) The pricing policy should work towards a better balance between demand and supply.
- (iii) The pricing policy should promote exports.
- (iv) The pricing policy should serve as an incentive to the manufacturers to maximize production by adopting improved technology.
- (v) The pricing policy should avoid adverse effects on the rest of the economy.

Question 10

Enumerate the uses of Pareto Analysis.

Answer

Pareto analysis is useful to:

- (i) Prioritize problems, goals and objectives.
- (ii) Identify the root causes.
- (iii) Select and define the key quality improvement programs, key employee relations improvement programs etc.
- (iv) Verify the operating procedures and manufacturing processes.
- (v) Allocate physical, financial and human resources effectively.
- (vi) Maximise research and product development time.

Question 11

Briefly explain skimming pricing and penetration pricing policies.

Answer

Skimming prices: Policy of highly pricing a product at the entry level into the market and reducing it later.

For example: Electronic goods, mobile phone, Flat, TVs, etc.

It is used when market is price insensitive, demand inelastic or to recover high promotional costs.

Penetration Pricing: Policy of entering the market with a low price, then establishing the product and then increasing the price.

This is also used by companies with established markets, when products are in any stage of their life cycle, to avoid competition. This is also known as “stay-out pricing”.

For example, entry of a new model small segment car into the market.

Question 12

Hind Metals Manufactures an alloy product ‘Incop’ by using iron and Copper. The metals pass through two plants, X and Y. The company gives you the following details for the manufacture of one unit of Incop:

<i>Materials</i>	<i>Iron: 10 kgs @ Rs.5 per kg.</i>
	<i>Cooper: 5 kg @ Rs.8 per kg.</i>
<i>Wages</i>	<i>3 hours @ Rs.15 per hour in Plant X</i>
	<i>5 hours @ Rs.12 per hour in Plant Y</i>

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Overhead recovery	On the basis of direct labour hours
Fixed overhead	Rs.8 per hour in Plant X
	Rs.5 per hour in Plant Y
Variable overhead	Rs.8 per hour in Plant X
	Rs.5 per hour in Plant Y
Selling overhead:	(fully variable) – Rs.20 per unit
(i)	Find out the minimum price to be fixed for the alloy, when the alloy is new to the market. Briefly explain this pricing strategy.
(ii)	After the alloy is well established in the market. What should be the minimum selling price? Why?

Answer

		Rs./u of alloy
Materials:		
Iron 10kg @ Rs.5/-	50	
Copper 5 kg @ Rs.8/-	<u>40</u>	90
Wages		
X: 3 hrs @ 15 Rs./Hr.	45	
Y: 5 hrs @ 12 Rs./Hr	<u>60</u>	105
Variable OH (Production)		
X: 8 hrs × 3 hrs	24	
Y: 5 hrs × 5 hrs	<u>25</u>	49
Variable OH – Selling		<u>20</u>
Total Variable Cost		264
Fixed Off:		
X: 8/hrs × 3 hrs.	24	
Y: 5/hrs × 5 hrs	<u>25</u>	<u>49</u>
Total Cost		<u>313</u>

- (i) If pricing strategy is to penetrate the market, the minimum price for a new product should be the variable cost i.e. Rs.264/-. In some circumstances, it can also be sold below the variable cost, if it is expected to quickly penetrate the market and later absorb a price increase. Total Variable Cost is the penetration price.

- (ii) When the alloy is well established, the minimum selling price will be the total cost – including the fixed cost i.e. Rs.313 per unit. Long run costs should cover at least the total cost.

Question 13

What is penetrating pricing? What are the circumstances in which this policy can be adopted?

Answer

The penetration pricing policy implies charging a low price to deter entry of competitors and to expand market share. Circumstances of penetration policy:

- The short run price elasticity of demand is high. By charging a low price, the first entrant is able to establish a market.
- Economies of scale are significant. By entering at a large scale the first firm can both enjoy low average cost and impose a cost penalty on any small scale subsequent entrant.
- Exploitation of established reputation / sales, marketing, distribution strengths. Create platform form for continued sale of related products.
- When there is a threat of competition. It depicted at maturity stage of a product in its life-cycle.

Question 14

A company had nearly completed a job relating to construction of a specialised equipment, when it discovered that the customer had gone out of business. At this stage, the position if the job was as under:

	Rs.
<i>Original cost estimate</i>	1,75,200
<i>Costs incurred so far</i>	1,48,500
<i>Costs to be incurred</i>	29,700
<i>Progress payment received from original customer</i>	1,00,000

After searches, a new customer for the equipment has been found. He is interested to take the equipment, if certain modifications are carried out. The new customer wanted the equipment in its original condition, but without its control device and with certain other modifications. The costs of these additions and modifications are estimated as under:

<i>Direct materials (at cost)</i>	<i>Rs.1,050</i>
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Direct Wages Dept.:	A	15 man days
Dept.:	B	25 man days
Variable overheads		25% of direct wages in each dept.
Delivery costs		Rs.1,350

Fixed overheads will be absorbed at 50% of direct wages in each department.

The following additional information is available:

- (1) The direct materials required for the modification are in stock and if not used for modification of this order, they will be used in another job in place of materials that will now cost Rs.2,250.
- (2) Department A is working normally and hence any engagement of labour will have to be paid at the direct wage rate of Rs.120 per man day.
- (3) Department B is extremely busy. Its direct wages rate is Rs.100 per man day and it is currently yielding a contribution of Rs.3.20 per rupee of direct wages.
- (4) Supervisory overtime payable for the modification is Rs.1,050.
- (5) The cost of the control device that the new customer does not require is Rs.13,500. If it is taken out, it can be used in another job in place of a different mechanism. The latter mechanism has otherwise to be bought for Rs.10,500. The dismantling and removal of the control mechanism will take one man day in department A.
- (6) If the convention is not carried out, some of the materials in the original equipment can be used in another contract in place of materials that would have cost Rs.12,000. It would have taken 2 man days of work in department A to make them suitable for this purpose. The remaining materials will realize Rs.11,400 as scrap. The drawings, which are included as part for the job can be sold for Rs.1,500.

You are required to calculate the minimum price, which the company can afford to quote for the new customer as stated above.

Answer

**Statement of minimum price which the company can afford to
quote for the new customer
(based on relevant cost)**

	Rs.
Cost to be incurred to bring the equipment in its original condition.	29,700
Opportunity cost of the direct material	2,250
Direct wages:	
Dept. A: 15 man days × Rs.120	1,800
Dept. B: 25 man days × Rs.100	2,500
Opportunity cost of contribution lost by department B (Rs.2,500 × Rs.2.30)	8,000
Variable overheads	1,075
25% × (Rs.1,800 + Rs.2,500)	
Delivery costs	1,350
Supervisory overtime payable for modification	1,050
Control device to be used in another job (Refer to working note 1)	(10,350)
Net loss on material cost savings, in the original equipment (Refer to working note)	11,700
Opportunity cost of remaining materials which can be sold as scrap	11,400
Opportunity cost of sale drawings	<u>1,500</u>
Total minimum price which may be quoted	<u>61,975</u>

Working notes:

1. Cost of control device to be used in another job:

	Rs.
Cost of control device	10,500
Less: Dismantling & removal cost of control mechanism (1 man day × Rs.120)	120
Less: Variable cost)25% × Rs.120)	<u>30</u>
Balance cost of control device	10,350

Advanced Management Accounting

2. Net loss on material cost saving of equipment:

Loss on material cost saving of equipment	12,000
Less: Conversion cost	
(2 man days × Rs.120)	240
Less: Variable overheads (25% × Rs.240)	<u>60</u>
Net loss on material cost saving of equipment	<u>11,700</u>

Question 15

Determine the selling price per unit to earn a return of 12% net on capital employed (net of Tax @ 40%).

The cost of production and sales of 80,000 units per annum are:

Material	Rs. 4,80,000	Labour	Rs. 1,60,000
Variable overhead	Rs. 3,20,000	Fixed overhead	Rs. 5,00,000

The fixed portion of capital employed is Rs. 12 lacs and the varying portion is 50% of sales turnover. .

Answer

Return of 12% net (after tax of 40%) on capital employed is equivalent to $12\% \div (1 - 0.4) = 20\%$ (gross) on capital employed

Let selling price per unit to be 'x'

Since Total sales = Total cost + profit

i.e. $80,000 x = 14,60,000 + 20\% (12,00,000 + 0.5 \times 80,000x)$

or, $80,000 x = 14,60,000 + 2,40,000 + 8,000x$

or, $72,000 x = 17,00,000$

or, $'x' = \frac{17,00,000}{72,000} = \text{Rs. } 23.61$

Hence selling price per unit will be Rs. 23.61

EXERCISE

Question 1

Name the pricing policy which aims at high selling price in the beginning of a product's, life cycle?

Answer

Refer to Chapter 4: Paragraph:4.7.1

Question 2

What is meant by Cost-plus pricing?

Answer

Refer to Chapter 4: Paragraph: 4.6.1

Question 3

Enumerate the circumstances which are favourable for the adoption of a penetrating pricing policy

Answer

Refer to Chapter 4: Paragraph: 4.7.1

Question 4

Chum-Chum Ltd. is about to introduce a new product with the following estimates:

<i>Price per unit (in rupees)</i>	<i>Demand (in thousand units)</i>
30-00	400
31-50	380
33-00	360
34.50	340
36-00	315
37-50	280
39-00	240

Costs:

<i>Direct material</i>	<i>Rs.12 per unit</i>
<i>Direct labour</i>	<i>Rs.3 per unit</i>
<i>Variable overhead</i>	<i>Rs.3 per unit</i>

Advanced Management Accounting

<i>Selling expenses</i>	<i>10% on sales</i>
<i>Fixed production overheads</i>	<i>Rs.14,40,000</i>
<i>Administration expenses</i>	<i>Rs.10,80,000</i>

Judging from the estimates, determine the tentative price of the new product to earn maximum profits.

Answer

Maximum profit = Rs.20,16,000

Question 5

Explain the concept of cost plus pricing. What are its advantages and disadvantages?

Answer

Refer to Chapter 4: Paragraph: 4.6.1

Question 6

P. W. Perfume Company manufactures various qualities of perfumes and colognes. One popular line of colognes includes three products that result from a joint production process. Below are data from the most recent month of production:

<i>Product</i>	<i>Sales Price</i>	<i>Quantity</i>	<i>Joint cost</i>	<i>Cost after split off</i>	<i>Total cost</i>
<i>Evergreen</i>	<i>Rs.40</i>	<i>10,000</i>	<i>Rs.28</i>	<i>Rs.20</i>	<i>Rs.48</i>
<i>Morning Flower</i>	<i>Rs.100</i>	<i>6,000</i>	<i>Rs.28</i>	<i>Rs.40</i>	<i>Rs.68</i>
<i>Evening Flower</i>	<i>Rs.150</i>	<i>4,000</i>	<i>Rs.28</i>	<i>Rs.50</i>	<i>Rs.78</i>

As the Controller, you are called into the Presidents Office with the Director of Marketing. The President says, "I don't understand your product cost report. Either, we are selling our largest-volume product at a loss or the product cost data are all wrong. Now what is it?"

Required:

- (i) Respond to the Presidents question.*
- (ii) Another company has just introduced a product that competes directly with Morning Flower to compete successfully with the other company's product, the price of Morning Flower cologne must be reduced to Rs.60. Should the company do so and sell below cost?*

- (iii) If P. W. Perfume Company has a policy of maintaining a gross margin of 20 per cent on sales, what would your answer be in response to the price reduction in part (ii)?
- (iv) What is the minimum price for which Morning Flower can sell and still meet the 20 per cent product gross margin for the group of products?

Answer

	<i>Evergreen</i>	<i>Morning Flower</i>	<i>Evening Flower</i>	<i>Total</i>
Profit	83,333	1,50,000	1,66,667	4,00,000

	<i>Evergreen</i>	<i>Morning Flower</i>	<i>Evening Flower</i>
	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>
Joint cost per unit	11,666	35	58.33

If the company sell Morning Flower Cologne below cost, it will still contribute Rs.20 per unit (Rs.60 – Rs.40) towards joint cost and profit. On a volume of 6,000 units it will contribute Rs.1,20,000 in total. Hence the company should do so and go ahead to sell Morning Flower below cost.

Minimum price per unit: Rs. 83.33