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SUGGESTED SOLUTION

FINAL MAY 2019 EXAM

SUBJECT- COSTING

Test Code - FNJ 7040

BRANCH - () (Date :)

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Answer 1:

Alternative – 1 with No Strike : (Refer W.N. 2, 3)

Cost of Settlement is 15% Increase i.e. Rs. 216 per unit

$$\begin{aligned} \text{Annual Cost of Settlement} &= 54,000 \text{ units} \times \text{Rs. } 216 \\ &= \text{Rs. } 1,16,64,000 \end{aligned}$$

Alternative 2 i.e. if Strike Goes Ahead : (Refer W.N. – 1, 2, 3)

Extra Cost	(Rs.)
Annual Incremental Labour Cost (Ex. Strike Days Production) [(54,000 units – (25 Days × 180 units per Day)) × Rs. 144.00]	71,28,000
Loss of Contribution due to loss of sales [1,300 units × Rs. 2,200]	28,60,000
Incremental Labour Cost for Balance 3,200 units [(25 Days × 180 units per Day) – 1,300 units] × Rs. 144.00	4,60,800
Overtime Premium [3,200 units × 1,584 × 0.5]	25,34,400
Payment for Efficiency [3,200 units × 1/9 × 1,584 × 1.5]	8,44,800
Additional Fixed Cost	1,00,000
	1,39,28,000

If there is no strike, it will yield a financial benefit of Rs. 22,64,000 (Rs. 1,39,28,000 – Rs. 1,16,64,000). Management should accept union's demand.

Working Note**(1) Statement Showing Contribution per unit of 'DBC'**

	Rs.
Selling Price	6,000
Less : Variable Costs :	
Labour Cost	1,440
Production Ex. Wages (Rs. 3,600 – Rs. 1,440)	2,160
Distribution	200
Contribution	2,200

(2) Calculation of Labour Cost

$$\text{Direct Labour (40\% of production costs of Rs. 3,600)} = \text{Rs. } 1,440 \text{ per unit}$$

$$\text{With 15\% Increase, Revised Labour Cost (Rs. } 1,440 + \text{Rs. } 216) = \text{Rs. } 1,656$$

$$\text{With 10\% Increase, Revised Labour Cost (Rs. } 1,440 + \text{Rs. } 144) = \text{Rs. } 1,584$$

(3) Statement Showing Budgeted Production

Total Time in a Day : (8 hrs. × 60 minutes)	= 480 minutes
Less : Idle Time	= 48 minutes
Coffee Break	= 20 minutes
Instructions	= 22 minutes
Training	= 30 minutes
Productive Time per day	= 360 minutes
Therefore, 'DBC' to be produced per man per day : (360 / 180 × 1)	= 2 units

Since 'DBC' are produced at the rate of 2 "DBC' per man day, so total yearly production will be 54,000 units (2 units × 90 men × 300 days) of 'DBC'

→ This problem has been solved by comparing 'Existing Situation' with both 'Alternatives (Strike or Non – Strike)' independently. However, this problem can also be solved by comparing 'Alternatives (Strike or None – Strike)' only and final answer would be the same. Students may also solve this problem by taking 'Total Approach' instead of 'Incremental Approach'.

Answer 2:

Customer Wise profitability Statement and Overall Profitability Statement

SN.	Particulars	PER	MGH	WLY	Total Rs.
A	Sales (net proceeds) – Table 1	241,288	237,500	272,812	751,600
B	Variable Cost of Goods sold	1,50,000	1,42,500	1,87,500	4,80,000
C	Assignable – Marketing and Administration Cost – Table 2				
	• Order Taking and Processing	1,200	600	4,500	6,300
	• Sale Return Processing	150	-	1,200	1,350
	• Billing Cost	200	100	750	1,050
	• Customer Visit	800	-	4,000	4,800
	Total Assignable Marketing and Administration Cost	2,350	700	10,450	13,500
D	Assignable – Distribution Cost – Table 2				
	Expedited / Rush Orders	250	-	1,250	1,500
	Delivery Costs	8,000	4,000	-	12,000
	Inventory Carrying Cost	10,000	9,500	12,500	32,000
	Total Assignable Distribution Cost	18,250	13,500	13,750	45,500
E	Non – Assignable Fixed Cost	-	-	-	1,00,000
F	Total Costs (B + C + D + E)	170,600	156,700	211,700	639,000
G	Net Profit (Step A – F)	70,688	80,800	61,112	112,600
H	Profit % of Sales (G/A)	29%	34%	22%	15%

Workings :

Table : 1 Customer sales Analysis – Revenue Analysis

All figures in Rs.

Particulars	PER	MGH	WLY	Total Rs.
Sales (Sales Units × Sale Price (gross))	2,50,000	2,37,500	3,12,500	8,00,000
Less : Sales Return (Step 1 × Return %)	1,250	-	31,250	32,500
Net Sales	2,48,750	2,37,500	2,81,250	7,67,500
Less : Cash Discount	7,462	-	8,438	15,900
Net Proceeds	2,41,288	2,37,500	2,72,812	7,51,600
Final Collections vs Original Sale	97%	100%	87%	94%

Table : 2 Assignable Marketing, Administrative and Distribution Costs

All figure in Rs.

Particulars	PER	MGH	WLY	Total
Order Taking and Processing (# of orders × cost per order)	1,200	600	4,500	6,300
Expedited / Rush Orders (# of orders × cost per order)	250	-	1,250	1,500
Delivery Costs (Distance in km. × cost per km)	8,000	4,000	-	12,000
Sales Return Processing (# of returns × cost per return)	150	-	1,200	1,350
Billing Cost (# of invoices × cost per invoice)	200	100	750	1,050
Customer Visit (# of customer visits × cost per visit)	800	-	4,000	4,800
Inventory Carrying Cost (# of units × inventory carrying cost p.u.)	10,000	9,500	12,500	32,000

Answer 3:

Cost Incurred – Cost Classification

S. No.	Cost Incurred	Classificati on 1	Classificati on 2	Classificati on 3
(i)	Remuneration of the loan division manager.	Uncontrollable by the loan division manager.	Direct cost of the loan division.	Out of Pocket Cost
(ii)	Cost of Printer Paper, File Folders, View Binders, Ink, Toner & Ribbons used in the loan division.	Controllable by the loan division manager.	Direct cost of the loan division.	Out of Pocket Cost
(iii)	Cost of the division's MacBook Pro purchased by the loan division manager last year.	Controllable by the loan division manager.	Direct cost of the loan division.	Sunk Cost
(iv)	Cost of advertising in business newspaper by	Uncontrollable by the loan division manager.	Indirect Cost of the loan division.	Out of Pocket Cost

	the bank, which is allocated to the loan division.			
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Answer 4:

1. Break Even Units

1. $[Fixed\ Costs + (Setup\ Cost \times Setups) + (Engineering\ Cost \times Engineering\ Hours)] / (Sale\ Price - Variable\ Cost)$
 $= [36,500 + (Rs. 225 \times 40) + (Rs. 10 \times 250)] / (Rs. 5 - Rs. 2.5)$
 $= 19,200\ units$

2. $[Fixed\ Costs + (Setup\ Cost \times Setups) + (Engineering\ Cost \times Engineering\ Hours)] / (Sales\ Price - Variable\ Cost)$
 $= [36,500 + (Rs. 150 \times 40) + (Rs. 10 \times 215)] / (Rs. 5 - Rs. 2.5)$
 $= 17,860\ Units$

Answer 5:

Situation	Appropriate Pricing Policy
Modern patented drug entering the market.	Skimming Pricing
The latest version of a mobile phone is being launched by an established, financially strong company.	Penetration Pricing
An established company has recently entered the stationery market segment and launched good quality paper for printing at home and office.	Market Price
A car manufacturer is launching an innovative, technologically advanced car in the highly priced segment.	Skimming Pricing
'B' is a new product for the company, but not for the market. B's success is crucial for the company's survival in the long term.	Market Price or Price Just Below Market Price
'C' is a new product to the company and the market. It has an inelastic market. There needs to be an assured profit to cover high initial costs and the unusual sources of capital have uncertainties blocking them.	Skimming Pricing
'D' is a perishable item, with more than 80% of its shelf life over.	Any Cash Realizable Value*

Answer 6:

(i) **Total Contribution Statement**

Statement Showing 'Total Contribution' for remaining two phases

Particulars	Maturity		Decline
	31 – 50	51 – 70	71 – 110
Weeks	31 – 50	51 – 70	71 – 110
Number of units Produced and Sold	22,000	22,000	22,000
Selling Price per unit (Rs.)	450	450	300
Unit Variable Cost (Rs.)	225	188	225
Unit Contribution (Rs.)	225	262	75
Total Contribution (Rs.)	49,50,000	57,64,000	16,50,000

(ii) Pricing Strategy for Product a^3

ORIL is following the skimming price strategy that 's why it has planned to launch the product a^3 initially with high price tag.

A skimming strategy may be recommended when a firm has incurred large sums of money on research and development for a new product.

In the question, ORIL has incurred a huge amount on research and development. Also, it is very difficult to start with a low price and then raise the price. Raising a low price may annoy potential customers.

Price of the product a^3 is decreasing gradually stage by stage. This is happening because ORIL wants to tap the mass market by lowering the price.

(iii) Possible reasons for the changes in cost during the life cycle of the product ' a^3 '

Product life cycle costing involves tracing of costs and revenues of each product over several calendar periods throughout their entire life cycle. Possible reasons for the changes in cost during the life cycle of the product are as follows :

ORIL is expecting reduction in unit cost of the product a^3 over the life of product as a consequence of economies of scale and learning / experience curves.

Learning effect may be the possible reason for reduction in per unit cost if the process is labour intensive. When a new product or process is started, performance of worker is not at its best and learning phenomenon takes place. As the experience is gained, the performance of worker improves, time taken per unit reduces and thus his productivity goes up. The amount of improvement or experience gained is reflected in a decrease in cost.

Till the stage of maturity, ORIL is in the expansion mode. The ORIL may be able to take advantages of quantity discount offered by suppliers or may negotiate the price with suppliers.

Product a^3 has the least variable cost Rs. 188 in last phase of maturity stage; this is because a product which is in the mature stage may require less marketing support than a product which is in the growth stage so, there is a saving of marketing cost per unit.

Again, the cost per unit of the product a^3 jumps to Rs. 225 in decline stage. As soon as the product reaches its decline stage, the need or demand for the product disappear and

quantity discount may not be available. Even ORIL may have to incur heavy marketing expenses for stock clearance.

Workings :

Statement of Cumulative Sales along with Sales Price and Variable Cost

Weeks	Demand per week	Total Sales	Cumulative Sales	Selling Price per unit (Rs.)	Variable Cost per unit (Rs.)
1 – 10	220	2,200	2,200	750	375
11 – 20	550	5,500	7,700	600	300
21 – 30	825	8,250	15,950	525	300
31 – 50	1,100	22,000	37,950	450	225
51 – 70	1,100	22,000	59,950	450	188
71 – 80	880	8,800	68,750	300	225
81 – 90	660	6,600	75,350	300	225
91 – 100	440	4,400	79,750	300	225
101 – 110	220	2,200	81,950	300	225