Paper – 8: Cost & Management Accounting

Time Allowed: 3 Hours **Full Marks: 100**

Question No 1 is Compulsory. Answers any five Questions from the rest.
Working Notes should form part of the answer.

Question:1

(a) Match the statement in Column I with appropriate statement in Column II [1x5]

Column I	Column II
(i) Machine hour rate	(A) Process Costing
(ii) Non Integrated Accounts	(B) Reverse Cost Method
(iii) Equivalent Production	(C) Cost Ledger Accounts
(iv) By-Product Cost Accounting	(D) Absorption of Factory Overhead
(v) Control of Inventory	(E) JIT System

(b) State whether the following statements are TRUE or FALSE: [1x5]

(i) Future costs are not relevant in making management decisions.

(ii) Opportunity Cost is the value of benefit sacrificed in favor of an alternative course of action.

(iii) Cost of floppy disk used for office computer is administration overhead.

(iv) Marginal cost includes prime cost plus variable overhead.

(v) Costing is defined as technique and process of ascertaining costs.

(c) Fill in the blanks: [1x5]

(i) When P/V ratio is 20% and margin of safety ratio is 30%, profit is …….. % of sales.

(ii) ……. Costing is a must for meaningful inter-firm comparison.

(iii) ……. Costs are the future costs affected by decision taken.

(iv) In activity based costing, costs are accumulated by ……

(v) A …….. is the notional value at which goods and services are transferred between divisions in a decentralised organization.

(d) In the following cases, You are required to indicate the correct answer and give workings: [2x5=10]

(i) The standard and actual data for product 'MNP' are given as under:
Standard 40 hours @ ₹20 per hour. Actual 45 hours @ ₹22 per hour, so labour efficiency variance is
(A) ₹90 Adverse
(B) ₹100 Favourable

(C) ₹90 Favourable
(D) ₹100 Adverse

(ii) If the minimum stock level and average stock level of raw material X are 6,000 and 11,000 units respectively, find out its re-order quantity.
(A) 5,000 units
(B) 6,000 units
(C) 10,000 units
(D) 11,000 units

(iii) A truck capable of carrying 5 tonnes of goods normally carries 80% of the load on the outward journey and 40% of the load on inward journey. The journey is 300 kms for one side. It takes two days to complete the return trip. In a year of 300 days compute the tonnes-km.
(A) 2,70,000
(B) 3,00,000
(C) 3,30,000
(D) 3,50,000

(iv) Compute the Inventory turnover ratio from the following information:
Opening Stock - ₹50,000; Closing Stock - ₹80,000; Material Consumed - ₹3,90,000
(A) 1.6 times
(B) 3 times
(C) 4.88 times
(D) 5.54 times

(v) A company is currently operating at 80% capacity level. The production under normal capacity level is 1,50,000 units. The variable cost per unit is ₹14 and the total fixed costs are ₹8,00,000. If the company wants to earn a profit of ₹4,00,000, then the price of the product per unit should be
(A) ₹37.50
(B) ₹38.25
(C) ₹24.00
(D) ₹35.00

Answer:1

(a)

Column I	Column II
(i) Machine hour rate	**(D)** Absorption of Factory Overhead
(ii) Non Integrated Accounts	**(C)** Cost Ledger Accounts
(iii) Equivalent Production	**(A)** Process Costing
(iv) By-Product Cost Accounting	**(B)** Reverse cost method
(v) Control of Inventory	**(E)** JIT System

(b)

(i) False
Future costs are relevant for making management decisions because they are subject to management control. These costs are relevant in cost control, profit projections, appraisal of capital expenditure, introduction of new products, expansion programmes and pricing etc.

(ii) True
This statement is true.

(iii) True
This statement is true.

(iv) True
This statement is true.

(v) True
This statement is true.

(c)

(i) 6%

(ii) Uniform

(iii) Relevant

(iv) Cost Pool

(v) Transfer Price

(d)

(i) (D) ₹100 Adverse

Labour Efficiency variance = (SH – AH) X SR
= (40 – 45) Hrs. x ₹20
= (-) 5 Hrs. x ₹20 = ₹100 Adverse.

(ii) (C) 10,000 units

Average Stock Level = Minimum stock level + ½ of Re-order quantity
11,000 units = 6,000 units + ½ of Re-order quantity
½ of Re-order quantity = 5,000 units
Therefore, Re-order quantity = 10,000 units

(iii) (A) 2,70,000

The tones-kms: (4 ton x 300km + 2ton x 300km) x 300/2 = 2,70,000 tonnes-km.

(iv) (D) 5.54 times

Inventory turnover ratio (refer to working note)

$$= \frac{\text{Cost of stock of raw mterial consumed}}{\text{Average stock of raw material}} = \frac{₹3,60,000}{₹65,000} = 5.54 \text{ times}$$

Working note:

		₹
Opening stock of raw material	=	50,000
Add: Material purchases during the year	=	3,90,000
Less: Closing stock of raw material	=	80,000
Cost of stock of raw material consumed		3,60,000

Average stock of raw material $= \frac{1}{2}\left\{\begin{matrix}\text{Opening stock of} \\ \text{raw material}\end{matrix} + \begin{matrix}\text{Closing stock of} \\ \text{raw material}\end{matrix}\right\}$

$= \frac{1}{2}\{₹\ 50,000 + ₹80,000\} = ₹65,000$

(v) (C) ₹24.00

Total fixed cost	-	₹8,00,000
Expected profit	-	₹4,00,000
Variable cost at 80% level (80% x 1,50,000 units x ₹14)	-	₹16,80,000
Total price	-	₹28,80,000

Per unit price at 80% level = (₹28,80,000 / 1,20,000 units) = ₹24.00.

Question.2

(a) A company produces a single product in three sizes X, Y and Z. Prepare a statement showing the selling and distribution expenses apportioned over these three sizes, on the bases indicated, and express the total apportioned to each size as:

I. cost per unit sold, and

II. a percentage of sales turnover.

The expenses and bases of apportionment are:

Expenses	Amount (₹)	Basis of apportionment
Sales salaries	20,000	Direct charge
Sales commission	60,000	Sales turnover
Sales office expenses	20,960	Number of orders
Advertising : Specific	2,20,000	Direct charge
General	50,000	Sales turnover
Packing	30,000	Size of product
Delivery expenses	40,000	Size of product
Warehouse expenses	10,000	Size of product
Credit Collection expenses	12,960	Number of orders

Data relating to the three sizes are as follows:

	Total	X	Y	Z
No. of salesmen, all paid same salary	20	8	10	2
Number of orders	1,600	700	800	100
% of specific advertising	100	30	40	30
Number of units sold	8,240	3,440	3,200	1,600
Sales turnover	₹20,00,000	5,80,000	8,00,000	6,20,000
Capacity in cu ft per unit		5	8	17

[5+5]

Answer:

Comparative Statement of Costs

Items of Expenses	Basis of apportionment	Total	Production sizes		
			X ₹	Y ₹	Z ₹
Sales salaries	No. of salesmen	20,000	8,000	10,000	2,000
Sales commission (3% of sales)	Sales value	60,000	17,400	24,000	18,600

Sales office expenses	Number of orders	20,960	9,170	10,480	1,310
Advertising:					
Specific	Direct (3:4: 3)	2,20,000	66,000	88,000	66,000
General	Sales value	50,000	14,500	20,000	15,500
Packing	Cubic capacity of units sold (17,200 : 25,600 : 27,200)	30,000	7,371	10,971	11,658
Delivery expenses	"	40,000	9,829	14,628	15,543
Warehouse expenses	"	10,000	2,457	3,657	3,886
Credit Collection	No of orders	12,960	5,670	6,480	810
Total		4,63,920	1,40,397	1,88,216	1,35,307

	Total	X	Y	Z
Cost as apportioned (₹)	4,63,920	1,40,397	1,88,216	1,35,307
Units sold	8,240	3,440	3,200	1,600
I. Cost per unit sold (₹)	56.3	40.8	58.8	84.6
Sales value ('000s) (₹)	2,000	580	800	620
II. Cost of percentage of sales value	23.2%	24.2%	23.5%	21.8%

Notes:

- Total sales commission: ₹60,000
  Total sales: ₹20,00,000
  % of sales $= \frac{60,000}{20,00,000} \times 100 = 3\%$

- Cubic capacity of units sold:
  X : 3,440 × 5 = 17,200
  Y : 3,200 × 8 = 25,600
  Z : 1,600 × 17 = 27,200
  70,000

(b) List out ten functional budgets. **[5]**

Answer:

Following are the some functional budgets:

- Sales budget
- Production Budget,
- Raw Material Consumption Budget,
- Direct Labour cost Budget,
- Direct Material Cost Budget,
- Factory Overheads Budget,
- Office and Administrative Overheads Budget,
- Selling and Distribution Overheads Budget,
- Production Cost Budget,
- R&D Budget,
- Cash Budget,
- Man Power Planning Budget,
- Capital Expenditure Budget.

Question.3

(a) The product of a manufacturing concern passes through two processes, A and B and then to finished stock. It is ascertained that in each process, normally 5% of the total weight is lost and I0% is scrap from which processes A and B realize ₹80 per tonne and ₹200 per tonne respectively. The following are the figures relating to the processes:

Particulars	Process A	Process B
Materials (tones)	1,000	70
Cost of Materials ₹/tone	125	200
Wages (₹)	28,000	10,000
Manufacturing Expenses (₹)	8,000	5,250
Output (tones)	830	780

There was no stock or WIP in any process.

Prepare the Process Cost A/c of Process B assuming no inter-process profit mark-up on transfers to Process B. [7]

Answer:

Process B A/c.

Description	Quantity (Tonnes)	Value (₹)	Description	Quantity (Tonnes)	Value (₹)
To Process A A/c	830	1,49,400			
To Material	70	14,000	By Normal Loss	45	
To Wages		10,000	By Sale of Scrap	90	18,000
To Expenses		5,250	By Finished Stock	780	1,63,800
To Abnormal Gain	15	3,150			
	915	1,81,800		915	1,81,800

Working Notes:

Cost transferred from Process A= $\frac{(1,25,000+28,000+8,000-8,000)}{850} \times 830$ = ₹1,49,400.

Input = 830 from Process A and input of 70 = 900 (Tonnes)
Normal loss = 5% of input = 45 (Tonnes)
Scrap = 10% of input = 90 (Tonnes)
Output (given) = 780 (Tonnes)
Hence, Abnormal gain (915 – 900) = 15 (Tonnes)

(b) Pass Journal Entries in the cost books maintained on non-integrated system, for the following:

Issue of materials	**Direct ₹6,00,000; Indirect ₹1,00,000**
Allocation of wages	**Direct ₹2,20,000; Indirect ₹20,000**
Under /Over absorbed overheads	**Factory (over) ₹20,000** **Administration (under) ₹10,000**

[8]

Answer:

Journal entries

Work-in-progress control A/c Factory Overhead Control A/c To Stores Ledger Control A/c (Being issue of materials)	Dr. Dr.	6,00,000 1,00,000	 7,00,000
Work-in-progress Control A/c Factory Overhead Control A/c To Wages Control A/c (Being allocation of wages and salaries)	Dr. Dr.	2,20,000 20,000	 2,40,000
Factory Overhead Control A/c	Dr.	20,000	

To Costing Profit & Loss A/c (Being transfer of over-absorption of overheads)			20,000
Costing Profit & Loss A/c To Administration Overhead Control A/c (Being transfer of under-absorption of overheads)	Dr.	10,000	 10,000

Questipn.4

(a) The following is an extract of stores ledger of a particular item of stock with incomplete information for September 2014. You are required to fill in the rate column of issues correct to two decimal places. Also fill in the values under the 'Balance column' wherever indicated with a "?". Identify the method of stock issue followed by the company. How would you treat the value of the shortages on 30th September in Cost Accounts?

Date	Receipts		Issues		Balance	
September 2014	Quantity (Kg)	Rate (₹/Kg)	Quantity (Kg)	Rate (₹/Kg)	Quantity (Kg)	Value (₹)
1					50,000	1,25,000
7	5,000	2.4				
10			30,000			62,000
15			20,000			
20	15,000	2.6				
25	10,000	2.5				
29			20,000			
30 shortage-abnormal loss			200			?
30 shortage-abnormal loss			400			?
31					9,400	?

[8]

Answer:

Statement showing the value of closing stock

Date	Receipts		Issues		Balance	
September 14	Quantity (kg)	Rate (₹/kg)	Quantity (kg)	Rate (₹/kg)	Quantity (kg)	Value ₹
1					50,000	1,25,000
7	5,000	2.4			55,000	1,37,000
10			30,000	2.50	25,000	62,000
15			20,000	2.50	5,000	12,000
20	15,000	2.6			20,000	51,000
25	10,000	2.5			30,000	76,000
29			20,000	2.55	10,000	25,000
30 (Shortage-Normal loss)			200	2.50	9,800	24,500

30 (shortage - abnormal loss)			400	2.50	9,400	23,500
31					9,400	23,500

Working Note:

- The store ledger shows the value of the stock on 10.09.14 is ₹62,000 which show that the store ledger is maintained in FIFO method.

- On 29.09.14 the issue price is :

Quantity	Rate	Value (₹)
5,000	2.40	12,000
15,000	2.60	39,000
20,000	-	51,000

Therefore, rate of the issue : 51,000/20,000 = 2.55 **[1 mark]**

Therefore, rate of the issue: 51,000 / 20,000 = 2.55

- Normal Shortage is charged to production as a % of direct material consumed.
  The value of normal loss to be included in material cost = 200 x 2.5 = ₹500

- Abnormal Loss is to be written off to costing P& L A/c
  Value of Abnormal Loss = 400 x 2.5 = ₹1,000

(b) Two workmen, X and Y, produce the same product using the material. X is paid bonus according to Halsey plan, while Y is paid bonus according to Rowan plan. The time allowed to manufacture the product is 100 hours. X has taken 60 hours and Y has taken 80 hours to complete the product. The normal hour rate of wages of workman X is ₹20 per hour. The total earnings of both the workers are same. Calculate the normal hour arte of wages of workman Y. [3]

Answer:

Wages of X under Halsey Plan = Hours worked × Rate per hour + (50% × time saved × rate per hour)

= 60 hors × ₹20 + [50% × (100-60) × ₹20]
= ₹1,600

Let normal hourly rate of wages of workman Y = ₹a per hr
Wages of Y under Rowan Plan = Hours worked × Rate per hou + (Time taken / Time allowed × time saved × rate per hrs)

= 80hrs × ₹a + (80 /100 ×20 × ₹a)
= ₹96a

Earnings of Y = Earnings of X
₹96a = ₹1,600
Therefore, a = ₹16.67 per hour
Thus normal hourly rate of wages of workman Y = ₹16.67 per hr.

(c) What are the Pre-requisites for Installation of a Uniform Costing System? [4]

Answer:

Essential Pre-requisites for installation of a Uniform costing System:
A successful system of uniform costing requires the following essential requisites for its installation.

- There should be a spirit of mutual trust, co-operation and a policy of give and take amongst the participating members.

- Mutual exchange of ideas, methods used, special achievements made, research and know-how etc. should be frequent.
- Bigger units should take the lead towards sharing their experience and know-how with smaller units to enable the latter to improve their performance.
- Uniformity must be established with regard to several points before the introduction of uniform costing in an unit. In fact, uniformity should be with regard to the following points:
  - Size of the various units covered by uniform costing.
  - Production methods.
  - Accounting methods, principles, and procedures used.
- It should be willing to share/furnish relevant data/information.

Question.5

(a) GREEN ENVIRON LTD. has two divisions—M and N. Division-M manufactures product A-15 which it sells in outside market as well as to Division-N which processes it to manufacture Z-25. The Manager of Division-N has expressed the opinion that transfer price is too high. The two Divisional Managers are about to enter into discussions to resolve the conflict and Manager of Division-M to supply him with some information prior to discussions.

Division-M has been selling 50,000 units to outsiders and 10,000 units to Division-N, all at ₹25 per unit. It is not anticipated that these demand will change. The variable cost is ₹15 per unit and the fixed costs are ₹3 lakhs. Divisional investment in assets is ₹12 lakhs.

The Manager of Division-M anticipates that Division-N will want a transfer price of ₹22. If he does not sell to Division-N, ₹40,000 of fixed costs and ₹2,00,000 of assets can be avoided. The Manager of Division-M would have no control over the proceeds from the sale of the assets and is judged primarily on his rate of return.

Required:

I. Should the Manager of Division-M transfer its products at ₹22 to Division-N?

II. What is the lowest price that the Division-M should accept? [7+2=9]

Answer:

GREEN ENVIRON LTD

I. Comparative Profitability Statement of Division M (Figures in ₹)

	Alternative Situations		
Particulars	**Sell ₹25**	**Transfer at ₹22**	**Don't transfer**
Sales Revenue: Market sales (50,000 units × ₹25)	12,50,000	12,50,000	12,50,000
Transfer to Division – N (10,000 units × ₹25)	2,50,000	2,20,000	-----
Total (A)	15,00,000	14,70,000	12,50,000
Variable Cost (at ₹15/ unit)	9,00,000	9,00,000	7,50,000
Fixed Cost	3,00,000	3,00,000	2,60,000
Total (B) (₹)	12,00,000	12,00,000	10,10,000
Total Profit (A – B)	3,00,000	2,70,000	2,40,000
Total Assets (₹)	12,00,000	12,00,000	10,00,000
ROI (Percentage)	25%	22.50%	24%

Comments:

The manager of Division M should not agree to sell at ₹22 per unit, as it lowers down its rate of return (ROI) i.e. (25% to 22.50%

II. The lowest transfer price acceptable to Division M is one, which maintains its rate of return of 24% (ROI without selling to Division N):

= (Total sales Revenue -Total Cost) / Total Assets = 0.24
or, [(₹12,50,000 + 10,000 x Transfer Price (TP)) –12,00,000] ÷₹12,00,000= 0.24
or, 10,000 TP = 2,88,000 –50,000 = 2,38,000
or, (Transfer Price) TP = 2,38,000 ÷ 10,000 = 23.80 i.e. ₹23.80
The lowest transfer price acceptable to Division -M is ₹23.80 per unit.

(b) What are the steps that need to be undertaken for making reporting of variances more effective? Name some variance reporting ratios. [5+1]

Answer:

In order that variance reporting should be effective, it is essential that the following requisites are fulfilled:

- The variances arising out of each factor should be correctly segregated. If part of a variance due to one factor is wrongly attributed to or merged with that of another, the analysis report submitted to the management would be misleading and wrong conclusions may be drawn from it.
- Variances, particularly the controllable variances should be reported with promptness as soon as they occur. Mere operation of Standard Costing and reporting of variances is of no avail. The success of a Standard Costing system depends on the extent of responsibility which the management assumes in correcting the conditions which cause variances from standard. In order to assist the management in assuming this responsibility, the variances should be reported frequently and on time. This would enable corrective action being taken for future production while work is in progress and before the project or job is completed.
- For effective control, the line of organization should be properly defined and the authority and responsibility of each individual should be laid down in clear terms. This will avoid 'passing on the buck' and shirking of responsibility and will enable the tracing of the causes of variances to the appropriate levels of management.
- In certain cases, a particular variance may be the joint responsibility of more than one individual or department. It is obvious that if corrective action has to be effective in such cases, it should be taken jointly.
- Analysis of uncontrollable variances should be made with the same care as for controllable variances. Though a particular variance may not be controllable at the lower level of management, a detailed analysis of the off-standard situation may reveal far reaching effects on the economy of the concern. This should compel the top management to take corrective action, say, by changing the policy which gave rise to the uncontrollable variance.

A number of ratios are used for reporting to the management the effective use of capacity, material, labour and other resources of a concern. Some of them are named below:

- Efficiency Ratio.
- Activity Ratio.
- Calendar Ratio.
- Capacity Usage Ratio
- Capacity Utilization Ratio.
- Idle Time Ratio

Question.6

(a) A review, made by the top management of THAKAR LTD. which makes only one product, of the result of first quarter of the year revealed the following:

Sales in units	**10,000**
Loss in ₹	**10,000**

Fixed cost (for the year ₹1,20,000) in ₹	**30,000**
Variable cost per unit in ₹	**8**

The Finance Manager who feels perturbed suggests that the company should at least break even in the second quarter with a drive for increased sales. Towards this, the company should introduce a better packing which will increase the cost by ₹0.50 per unit.

The Sales Manager has an alternate proposal. For the second quarter additional sales promotion expenses can be increased to the extent of ₹5,000 and a profit of ₹5,000 can be aimed at for the period with increased sales.

The Production Manager feels otherwise. To improve the demand, the selling price per unit has to be reduced by 3 per cent. As a result the sales volume can be increased to attain a profit level of ₹4,000 for the quarter.

The Managing Director asks you as a Cost Accountant to evaluate these three proposals and calculate the additional Sales Volume that would be required in each case, in order to help him take a decision. [2+8=10]

Answer:

Results of the first quarter: Sales 10,000 units

Particulars	Per unit (₹)	Amount (₹)
Variable cost (V)	8	80,000
Fixed cost	3	30,000
Total cost	11	1,10,000
Loss	1	10,000
Sales (S)	10	1,00,000
Contribution (S – V)	2	20,000

Comparative Statement of 3 proposals

Particulars	Proposal Of		
	Finance Manager (₹)	Sales Manager (₹)	Production Manager (₹)
Selling Price per unit	10.00	10.00	9.70
variable cost per unit (8.00 +0.50)	8.50	8.00	8.00
Contribution per unit	1.50	2.00	1.70
Fixed cost	30,000	35,000	30,000
Profit required	Nil	5,000	4,000
B.E.P (Units) =Fixed cost / Contribution per unit [A]	30,000 ÷ 1.50= 20,000	------	------
Sales (Units) = (Fixed cost + Profit) / Contribution per unit [A]	-------	20,000 [(35,000+5,000)/ 2.00]	20,000 [(30,000 + 4,000) / 1.70]
Sales (units) in First Quarter [B]	10,000	10,000	10,000
Additional Sales volume required in Second Quarter as compared to first Quarter [A – B]	10,000	10,000	10,000

(b) State a joint product and a by-product? How are they different? [2+3]

Answer:

Joint Products are the result of utilization of the same raw materials and same processing operations. The processing of a particular raw material may result in the output of two or more products, e.g. in oil refining, fuel oil, petrol, diesel, kerosene, lubricating oil are joint products.

A **by-product** also arises from the same process, but it is a secondary product or a minor product. Its production is an incidental outcome of the main operation, e.g. in oil refining, camphor, grease, etc are by-products.

When the degree of economic importance is changed, what was earlier a joint product can become a by-product and vice versa. When a by-product gains economic significance, its costs and revenue are treated on par with those of the joint products, e.g. gas produced in the oil refining process.

Difference between Joint Products and by-products

Joint Products	By-Products
They have almost equal economic importance.	They are not as important as the joint products.
There is an intention to produce each of the joint products.	There is no intention. The output is incidental to main production.
Joint Costs are apportioned to each of the joint products on a suitable basis. inventory is maintained	By-product inventory is not maintained. Costs/Revenues are either written off to P&L A/c or accounted for like scrap. If they are significant to be consumed captively, opportunity cost method is used or they are valued as standard cost.

Question.7

(a) List out the utility of Financial Accounting. [6]

Answer:

The Utility of financial accounting can be explained in the following manner.

- Financial Accounting provides well defined rules and principles of recording business transactions. This provides uniformity in recording the transactions and thus results of various organizations become comparable.
- For any organization, whether it is profit making or non-profit making, it is essential to find out the results of a particular accounting period, i.e. accounting year. Financial accounting mechanism enables them to prepare Profit and Loss Account and Balance Sheet at the end of the financial year.
- Financial Accounting helps the taxation authorities for determining the tax liability in a fair manner. Income Tax is levied on the profits and financial accounting helps to disclose true and fair view of the business as regards to profits. Thus the assessment of tax liability becomes rational and free from any controversies.
- Financial accounting is also helpful for the investors who are interested in finding out the profitability of the business in which they want to invest the money. Financial accounting information helps in ascertaining profitability so that decision-making is easier.
- In the course of the business, a firm has to borrow money for various objectives such as expansion, diversification, modernization and so on. The lenders have to ensure that the money lent by them will be repaid back. For this, they study financial statements viz. Profit and Loss Account and Balance Sheet to ascertain the financial condition of the business. Thus the financial accounting helps them in decision-making regarding granting of loan.
- Financial accounting also provides useful information for the purpose of valuation of business during merger and acquisition Process.

(b) The following are the figures relating to a factory for two successive years:

	Year I (₹)	Year II (₹)
Sales	**10,00,000**	**16,80,000**
Marginal Cost of Sales	**6,00,000**	**8,00,000**
Contribution	**4,00,000**	**8,80,000**

During Year II, the selling price increased by 20% and the company implemented a cost reduction programme very aggressively. You are required to analyse the increase in contribution due to:

I. Increase in selling price
II. Increase in sales volume
III. Reduction in cost **[3+3+3]**

Answer:

Increase in Contribution = ₹8,80,000 – ₹4,00,000 = ₹4,80,000

Calculation of P/V Ratio:

P/V Ration = Contribution / Sales

$$\text{Year I: P /V Ratio} = \frac{4,00,000}{10,00,000}$$

= 40%

$$\text{Year II: P /V Ratio} = \frac{8,80,000}{16,80,000}$$

= 52.38%

It is assumed that the no. of units sold are 1,00,000.

Selling Price = 10,00,000 / 1,00,000

= ₹10

Increase in selling price by 20% in year II

Therefore, selling price in the year II = ₹12

No. of units in Year II = 16,80,000 / 12

= 1,40,000 units

I. Increase in Contribution due to increase in Selling Price

The increase in selling price will lead to the increase in contribution. Selling price has increase by 20% and the contribution has increased by 120%. This means for every 1% increase in the selling price the contribution will increase by 6%. The increase in the selling price was directly related to the increase in the contribution. Change in the selling price will not affect in the production thereby the change in the variable cost, as both are not related activities in the production.

II. Increase in Contribution due to increase in Sales Volume

In the given situation, the increase in the sales volume (from I year to II year) resulted in increase in the contribution to some extent. The amount of sales is increased as the no. of units sold has been increased. By this, the amount of contribution is also increased. The increase in the sales volume was directly related to the increase in the contribution. There is no relation between the sales volume and production run.

III. Increase in Contribution due to reduction in cost

Since the company has implemented a cost reduction programme, the cost of production per unit will be automatically reduced and there by contribution per unit will go up. In the absence of the data as to quantitative details, we cannot attribute whether the increase in contribution is resulted due to increase in quantity of goods sold or due to implementation of cost reduction programme. However, if the quantum of increase in sales units is less than 40% of the number of units, then, we

conclude that the increase in contribution is due to implementation of the cost reduction programme to that extent.

Question.8 Write short notes on (any three) of the following: [5x3=15]

(a) 'Flexible budget'.
(b) FSND Analysis
(c) Incremental Pricing
(d) Cost Indifference Point
(e) Application of service costing

Answer:

(a) 'Flexible budget'.

If the actual level of activity (e.g. production is 12,000 units) varies from the budgeted level of activity (e.g., 15,000 units), then it would be meaningless to compare various elements of cost and report the differences. Hence, we redo the figures in the budget, assuming that the actual level of output was indeed budgeted. Then, the comparison becomes more meaningful. In other words, we are eliminating the variance arising out of the difference in the levels of activity. This recomputed meaningful budget is called the flexible budget. It may also be considered as a series of static budget (fixed budgets) for different levels of activity. The most important pre-requisite for a flexible budget is the study of the behaviour of costs and accurate classification into fixed and variable. Sometimes, there is a semi-fixed cost which has to be broken down into fixed and variable components. The relevant range over which fixed costs remain fixed is also to be reckoned carefully. Sometimes, there is a jump in the fixed costs beyond a certain volume or level of activity. A flexible budget, drawn up after considering these factors to match the actual level of activity will give a meaningful analysis of the variances which would be realistic and therefore lead to correct decisions.

(b) FSND Analysis

Fast-moving, Slow-moving, Normal-moving and Dead (FSND) stock Analysis

This system involves division of items (materials) into four categories- namely fast-moving, Slow-moving, normal-moving and Dead (FSND) stocks.

Fast-moving items are those which are consumed in very little time. They must be carefully observed and replenished to avoid stock-out.

Slow-moving items are those which are consumed in probably two or more years. They must be carefully analyzed before placing any further orders. Possibility of any alternative use of these materials (e.g. - substitution of regularly used materials or re-use etc) should be examined.

Normal-moving items are those which are consumed in about a year.

Dead stock items are those which are useless and alternative use for such material should be identified. If alternative use is not found, they should be discarded and not unnecessarily stocked.

It is important to recognize the slow and non-moving items to avoid blocking up of capital / funds of the company. Some indicators are - Low material turnover ratio; High material stockholding period. Stock levels are always above the reorder level or close to the maximum; level etc.

(c) Incremental Pricing 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. Profitability is identified as the primary consideration and then the decision is adjusted to bring it in consonance with the other decisions of the business. Incremental pricing analyses all aspects of decision-making as listed below:

- Relevant cost analysis – This technique considers changes in costs rather than in Average Cost. Overhead allocations are irrelevant. Incremental revenue inflows and Cost outflows are included for decision-making.
- Product-line relationship analysis – This technique necessitates consideration being given to possible complementary relations in demand. Sale of one product may lead to the sale of a complementary product. This overall effect on profitability has to be evaluated.
- Opportunity cost analysis – Incremental revenue should cover Opportunity Cost and also generate surplus. A price, which results in an Incremental Revenue, which in turn merely covers the Incremental Costs, is not sufficient. If opportunity costs exceed Incremental Revenue, the decision is not sound.
- Time factor analysis – The decision should take into account the short-run and long-run effect. A high price may increase its immediate profits but may lead to loss of revenue in the long-run owing to competitors snatching the business.
- CVP analysis – In fixing prices, consideration should be given to Price-Volume relationship. The responsiveness of the market to the price should be such that the volume is increased to achieve full utilization of plant capacity.
- Risk analysis – Consideration should also be given to the evaluation of uncertainty and risk factor. The decision taken should be able to maximize the expected value, based on Probability Theory.

(d) Cost Indifference Point – A cost indifference point is the point at which total cost (Fixed cost and variable cost) of two alternatives under consideration is the same. A company may have two methods available for production and it may so happen that at lower levels of activity one method is suitable up to a particular point and beyond that another method is suitable. The question arises at what level of capacity choice shifts from one production method to another production method. This point is called cost indifference point and at this point total cost is identical for the two alternatives. Cost indifference point will occur at a point where :

Total cost of alternative A = Total cost of alternative B

Cost indifference points are useful in analyzing many types of alternative choice decisions such as choosing between alternative production methods, marketing plans or quality control programmes.

(e) Application of service costing

The service costing is applied in the following situations:

- Internal service departments – Service costing is applied to the operations concerned in an organization which provide services to production departments. For example, Canteen for the staff, Hospital for the staff, boiler house of supplying steam to production departments, Captive Power generation unit, operation of fleet of vehicles for transport of raw material to factory or distribution of finished goods to the market outlets, computer department services used by other departments etc.
- Service organizations – When services are offered to outside customers with a profit motive and it is the business of the organisation in offering services, like Transport organization, Hotel business, Power generation company etc., service costing is applied.