Paper 10 : Cost and Management Accountancy

Full Marks: 100 **Time : 3 hours**

1. Answer all questions :

(i) The budgeted working conditions for a cost centre are as follows :

Normal working per week	**42 hours**
Number of machines	**14**
Normal weekly loss of hours on maintenance	**5 hours per machine**
Number of weeks works per year	**48**
Estimated annual overheads	**₹ 1,24,320**
Actual result in respect of a 4 week period are :	
Overhead incurred	**₹ 10,200**
Machine hours produced	**2,000**

On the basis of the above information you are required to calculate :

(a) The machine hour rate

(b) The amount of under or over-absorption of overhead **(2+2=4)**

Answer.

(a) Effective working hours p.a.
= Normal working hours – Normal loss due to maintenance
= (14 x 42 x 48) – (14 x 5 x 48) = 24,864 hours
∴ Overhead rate per machine hour = ₹ 1,24,320/24,864 hours = ₹ 5 per machine hr.

(b) Under-absorbed overhead = Actual overhead – Overhead absorbed
= ₹ 10,200 – (2,000 hours x ₹ 5 per hr.) = ₹ 200
Effective working hours per week = 4 week x 42 hours per week x 14 machines
= 2,352 hours

(ii) A factory transferred out 8,800 completed units during May 2013. Opening Stock was 400 units 75% completed, closing stock was 800 units 50% completed. Assuming FIFO method, what is the equivalent production in May 2013 ? **(2)**

Answer.

Equivalent production = 8,800 – (400 x 0.75) units + (800 x 0.50) units = 8800 – 300 + 400 = 8900 units.

(iii) Sales for two consecutive months of a company are ₹ 3,80,000 and ₹ 4,20,000. The company's net profit for these months amounted to ₹ 24,000 and ₹ 40,000 respectively. There is no change in P/V ratio or fixed costs. What is the P/V ratio? **(2)**

Answer.

$$\text{P/V Ratio} = \frac{Contribution}{Sales} = \frac{\text{Change in contributi on}}{\text{Change in sales}} = \frac{\text{Change in profit}}{\text{Change in sales}}$$

$$= \frac{40{,}000 - 24{,}000}{4{,}20{,}000 - 3{,}80{,}000} \times 100 = 40\%$$

(iv) The budgeted annual sales of a firm is ₹ 80 lakhs and 25% of the same is cash sale. If the average amount of debtors of the company is ₹ 5 lakhs, what is the average collection period ? (2)

Answer.

Average collection period = Credit sales/ Avg. debtors per month

$$= \frac{80,00,000 \times 75\%}{5,00,000} = 12 \text{ months}$$

(v) What are the principal functions of the Cost Auditor in the area of work-in-Progress? (2)

Answer.

In relation to work-in-progress (WIP), the Cost Auditor will look into the following :

(a) That WIP has been physically verified & that it agrees with the balance stated in the incomplete cost records.
(b) That the valuation of the WIP is correct with reference to the stage of completion of each job or process and the value in Job Cost Cards or Process Cost Sheet
(c) That there is no over-valuation or under-valuation of opening or closing WIP, thereby artificially pushing up or down Net Profits or Net Assets.
(d) That the volume of WIP is not disproportionate as compared with finished turnover/output.

(vi) What should the Cost Auditor focus on, in the area of Capacity Utilisation? (2)

Answer.

In the area of Capacity Utilisation, the Cost Auditor should verify –

(a) That the idle capacity of any production shop or of transport facilities for distribution is not abnormal when compared with normal levels.
(b) That production volume and overall machine time utilized are commensurate, i.e., the machine hours utilized have given the optimum output.

(vii) The Law of Demand assuming other things to remain constant, establishes the relationship between (1)

(i) Income of the consumer and the quantity of a good demanded by him.
(ii) Price of a good and the quantity demanded.
(iii) Price of a good and the demand for its substitute.
(iv) Quantity demanded of a good and the relative prices of its complimentary goods

(viii) In case of short run production function Qty of fixed input remains constant and (1)

(i) Qty of either one or two variable inputs change.
(ii) Qty of one or two variable inputs are kept constant as Qty of fixed inputs change.
(iii) The Qty of both fixed as well as variable inputs remains constant.
(iv) The Qty of both variable and fixed input change.

(ix) A firm faces the demand curve q = 200- 100p. If the objective of the firm is to maximize total revenue, what is the output level. (4)

Answer.

As $q = 200 - 100p \Rightarrow p = 2 - \frac{1}{100}q$.

$\Rightarrow MR = 2 - \frac{1}{50}q$.

Now TR is maximum if $\frac{d}{dq}(TR) = 0 \Rightarrow MR = 0$.

$\therefore$ If MR = 0. We have $2 - \frac{1}{50}q = 0 \Rightarrow q = 100$.

$\therefore$ firm must sell 100 units to maximize total revenue.

Section A – Answer any two questions from this section

2. (a) P, Q, R & S are the four types of products that appear in the price-list of a company with a note that a particular item or items may not be available on demand. The demand for the products is more than what the company can supply and non-supply of any of them will have no effect on the demand for the rest.
For the calendar year 2013, the company has made the following tentative budget that will use up all the available supplies of materials and labour in that year.
A linear programming was made by the company's accountant who stated that the opportunity costs or the shadow prices came to ₹ 2.50 per labour hour and ₹ 16.25 per kg. of material. He also suggested the product-mix which has since been forgotten. The accountant has left the company. The company now asks you as their Management Consultant to give your opinion about the budgeted program.
Data from tentative budget for 2013 :

Products	P	Q	R	S
Production/ Sales Units)	1000	1200	1600	800
Selling price per unit (₹)	100	130	120	150
Variable cost per unit (₹)	60	80	50	70
Labour hours per unit	3	4	2	5
Material usage per unit (kg)	2	3	4	5

(i) Determine the optimal sales mix for the company.
(ii) What difference the sales mix in (i) will make from that in the tentative budget in respect of contribution? (6+4=10)

Answer.

Working Notes:

Calculation of total labour hours and material available

Product	Units	Labour hours		Material usage kgs.	
		P.U.	Total	P.U.	Total
P	1,000	3	3,000	2	2,000
Q	1,200	4	4,800	3	3,600

R	1,600	2	3,200	4	6,400
S	800	5	4,000	5	4,000
Total			15,000		16,000

(a) Determination of optimal product mix – Opportunity Cost Table

Product	Labour Hr.	Material Kg.	Labour ₹	Material ₹	Total ₹	Contribution ₹	Difference ₹
P	3	2	7.50	32.50	40.00	40.00	0.00
Q	4	3	10.00	48.75	58.75	50.00	-8.75
R	2	4	5.00	65.00	70.00	70.00	0.00
S	5	5	12.50	81.25	93.75	80.00	-13.75

Notes: The opportunity cost is the quantity used for resource multiplied by its shadow price.

Now writing down the equations, omitting Q and S, we get

3P + 2R = 15,000…… (i)

2P + 4R = 16,000…… (ii)

By multiplying equation (i) with 2 and subtracting equation (ii) from it; we get

6P + 4R = 30,000

2P + 4R = 16,000

4P = 14,000

P = 14,000/4 = 3500 units

R = 2250 units

Calculation of total contribution based on optimal sales mix (₹)

P	(3500 units x ₹ 40)	1,40,000
Q	(2250 units x ₹ 70)	1,57,500
Total		2,97,500

Contribution as per tentative budget (₹)

P	(1000 units x ₹ 40)	40,000
Q	(1200 units x ₹ 50)	60,000
R	(1600 units x ₹ 70)	1,12,000
S	(800 units x ₹ 80)	64,000
Total contribution		2,76,000

Analysis: The optimal sales mix will increase the profit by ₹ 21,500 (i.e. ₹ 2,97,500 – ₹ 2,76,000).

(b) A product goes through three processes from a single input material. At the end of process I, an intermediate A, which cannot be further processed, also emerges. At the end of Process II, another intermediate product, B, also emerges, which cannot be processed further. The main product results at the end of Process III. The prices of these products have been frozen by the Government, subject to escalation only for raw material price and labour rate variations.

During a period, while the price control was in force, the material cost had gone up by ₹ 15 per kg. and the labour rates increased by Re. 0.80 per labour hour. Given the following information, on inputs and related outputs, you are required to determine the amount of claim for price escalation, for each of the intermediary products A and B and the main product and the total claim – (6+4=10)

Process	Input (kg.)	Output (kg.)	Labour hours
Process I	**2,000**	**1,600**	**16,000**
Process II	**1,440**	**1,200**	**18,000**
Process III	**880**	**800**	**16,000**

Answer.

(i) Computation of material input at different stages of Process

(a) Input required for Main Product at different stages of process

Input in Process III = 880 Kgs.

Input in Process II $= \left[\frac{880 \times 1,440}{1,200}\right]$ = 1,056 Kgs.

Input in Process I $= \left[\frac{1,056 \times 2,000}{1,600}\right]$ = 1,320 Kgs.

(b) Input required for Intermediate Product 'A'

Output of A from Process I = 1,600 – 1,440 = 160 Kgs.

Input required for this output $= \left[\frac{160 \times 2,000}{1,600}\right]$ = 200 Kgs.

(c) Input required for Intermediate Product

Output of B from Process II = 1,200 – 880 = 320 Kgs.

Input required for this output in Process II $= \left[\frac{320 \times 1,440}{1,200}\right]$ = 384 Kgs.

Input required for this output in Process I $= \left[\frac{384 \times 2,000}{1,600}\right]$ = 480 Kgs.

(ii) Computation of labour hours required to process each of products at different stages of process

Labour hours per Kg. of output in each process: (₹)

Process I	(16,000/1,600)	10
Process II	(18,000/1,200)	15
Process III	(16,000/800)	20

Labour hours required : (hours)

(a)	Main Product		
	Process III	(800 x 20)	16,000
	Process II	(880 x 15)	13,200
	Process I	(1,056 x 10)	10,560
		Total	39,760
(b)	Product 'A' (intermediate)		
	Process I	(160 x 10)	1,600
(c)	Product 'B' (intermediate)		
	Process II	(320 x 15)	4,800
	Process I	(384 x 10)	3,840
		Total	8,640

Statement of claim for escalation for increase in material and labour

Product	Material		Labour		Total Escalation Claim (₹)
	Qty/Kg.	Escalation @ ₹ 15/ Kg. (₹)	Hours	Escalation @ ₹ 0.80/ hr. (₹)	
Main Product	1,320	19,800	39,760	31,808	51,608
Product A	200	3,000	1,600	1,280	4,280
(Intermediate)	480	7,200	8,640	6,912	14,112
Product B (Intermediate)					
Total	2,000	30,000	50,000	40,000	70,000

The total escalation claim of ₹ 70,000 can be made on the Government for increase in rates of material and labour used in the production process.

3. A company manufactures several products of varying levels of designs and models. It uses a single overhead recovery rate based on direct labour hours. The overheads incurred by the company in the first half of the year are as under : ₹

Machine operation expenses	**10,12,500**
Machine maintenance expenses	**1,87,500**
Salaries of technical staff	**6,37,500**
Wages and salaries of stores staff	**2,62,500**

During this period, the company introduced activity based costing system and the following significant activities were identified :

- **Receiving materials and components**
- **Set up machines for production runs**
- **Quality inspection**

It is also determined that :

- **The machine operation and machine maintenance expenses should be apportioned between stores and production activity in 20:80 ratio.**
- **The technical staff salaries should be apportioned between machine maintenance, set up and quality inspection in 30:40:30 ratio.**

The consumption of activities during the period under review are as under :

- **Direct labour hours worked**
- **Direct wage rate ₹ 6 per hour**
- **Production set-ups**
- **Material and component consignments received from suppliers**
- **Number of quality inspections carried out**

The data relating to two products manufactured by the company during the period are as under:

	Products	
	P (₹)	**Q (₹)**
Direct material costs	**6,000**	**4,000**
Direct labour hours	**960**	**100**
Direct material consignments received	**48**	**52**
Production runs	**36**	**24**
Number of quality inspection done	**30**	**10**
Quantity produced (units)	**15,000**	**5,000**

A potential customer has approached the company for the supply of 24,000 units of a component K to be delivered in lots of 3,000 units per quarter. The job will involve an initial design cost of ₹ 60,000 and the manufacture will involve the following per quarter:

	₹
Direct material costs	**12,000**
Direct labour hours	**300**
Production runs	**6**
Inspection	**24**
Number of consignments of direct materials to be received	**20**

The company desires a mark up of 25% on cost.

Required:

(i) Calculate the cost of products P & Q based on the existing system of single overhead recovery rate.

(ii) Determine the cost of products P and Q using activity based costing system.

(iii) Compute the sales value per quarter of component K using activity based costing system. (8+8+4=20)

Answer.

Working Notes:

(a) Overhead rate per labour hour

$$= \frac{\text{Over head incurred in first half year}}{\text{Direct labour hours worked}} = \frac{₹21,00,000}{40,000 \text{ hours}} = ₹ 52.50 \text{ per labour hour}$$

(b) Apportionment of technical staff salaries

Machine maintenance	= 6,37,500 x 30 /100	= ₹ 1,91,250
- Set up	= 6,37,500 x 40 /100	= ₹ 2,55,000
Quality Inspection	= 6,37,500 x 30 /100	= ₹ 1,91,250

(c) Statement showing apportionment of 'Machine operation' and 'Machine maintenance' between stores and production activity (set up) in ratio 20 : 80

Particulars	Total expenses	Stores / receiving	Set up / production run
Machine operation	10,12,500	2,02,500	8,10,000
Machine maintenance (₹ 1,87,500 + ₹ 1,91,250)	3,78,750	75,750	3,03,000
Wages and salaries of stores staff	2,62,500	2,62,500	---
Component of set-up cost	2,55,000	---	2,55,000
Total	19,08,750	5,40,750	13,68,000

(d) Rate per activity cost driver

Particulars	Stores /	Set up / production	Quality inspec

	receiving	run	tion
Total overheads (₹)	5,40,750	13,68,000	1,91,250
Units of activities carried out	1,960	670.59	1,280
Rate per activity cost driver (₹)	275.89		149.41

(i) Statement showing computation of cost of products P and Q (Based on the existing system of single overhead recovery rate) **(₹)**

Particulars	Products	
	P	Q
Direct Labour hours	960	100
Units made	15,000	5,000
Direct materials cost	6,000	4,000
Direct labour cost @ ₹ 6 per D.L.H.	5,760	600
Overheads @ ₹ 52.50 per D.L.H.)	50,400	5,250
Total cost of products	62,160	9,850
Cost per unit	4.144	1.97

(ii) Statement showing computation of cost of products P and Q (Using activity based costing system) (₹)

Particulars	Products	
	P	Q
Units	15,000	5,000
Direct materials cost	6,000	4,000
Direct labour cost	5,760	600
Receiving / Stores cost (48 x 275.89)	13,243	
(52 x 275.89)		14,346
Production runs / Set ups cost (36 x 670.59)	24,141	
(24 x 670.59)		16,094
Inspection cost (30 x 149.41)	4,482	
(10 x 149.41)		1,494
Total cost of production	53,626	36,534
Cost per unit	3.58	7.31

(iii) Computation of sales value per quarter of component K (Using activity based costing system)

Units of component K to be delivered per quarter	3,000
	₹
Component of initial design cost per quarter (₹ 60,000 / 8 quarters)	7,500
Direct material costs	12,000
Direct labour cost (300 hours x ₹ 6)	1,800
	5,518

Receiving cost	(20 x ₹ 275.89)	4,024
Production runs cost	(6 x ₹ 670.59)	3,586
Inspection cost	(24 x ₹ 149.41)	34,428
Total cost		8,607
Add: Mark up (25% of cost)		43,035
Sales value		14.34
Selling price per unit of K	(₹ 43,035/3,000 units)	

4. (a) A large company is organized into several manufacturing divisions. The policy of the company is to allow the Divisional Managers to choose their sources of supply and when buying from or selling to sister divisions, to negotiate the prices just as they will for outside purchases or sales.

Division X buys all of its requirements of raw materials R from Division Y. The full manufacturing cost of R for Division Y is ₹ 88 per kg. at normal volume. Till recently Division Y was willing to supply R to Division X at a transfer price of ₹ 80 per kg. The incremental cost of R for Division Y is ₹ 76 per kg. since Division Y is now operating at its full capacity, it is unable to meet the outside customers' demand for R at its market price of ₹ 100 per kg. Division Y, therefore, threatened to cut off supplies to Division X unless the latter agrees to pay the market price for R.

Division X is resisting the pressure because its budget based on the consumption of 1,00,000 kgs. per month at a price of ₹ 80 per kg, is expected to yield a profit of ₹ 25,00,000 per month and so a price increase to ₹ 100 per kg. will bring the Division X close to break-even point.

Division X has even found an outside source for a substitute material at a price of ₹ 95 per kg. Although the substitute material is lightly different from R, it would meet the needs of Division X. Alternatively, Division X is prepared to pay Division Y even the manufacturing cost of ₹ 88 per kg.

Required :

(i) Using each of the transfer price of ₹ 80, ₹ 88, ₹ 95 and ₹ 100 show with supporting calculations, the financial results as projected by the
- **I. Manager of Division X**
- **II. Manager of Division Y**
- **III. Company**

(ii) Comment on the effect of each transfer price on the performance of the Managers of Division X and Division Y.

(iii) If you were to make a decision in the matter without regard to the views of the Divisional Managers where should Division X obtain its raw materials from and at what price.

(8+2+2=12)

Answer.

(i) Statement of Divisional profit at different transfer prices ₹

At transfer price of ₹ 80 per unit			
Division X			
Budgeted profit			25,00,000
Division Y			
Sales	(1,00,000 x 80)	80,00,000	
Less : Variable costs	(1,00,000 x 76)	76,00,000	4,00,000
Company's profit			29,00,000
At transfer price of ₹ 88 per unit			
Division X			
Budgeted profit		25,00,000	
Less : Additional cost	(1,00,000 x 8)	8,00,000	17,00,000
Division Y			

Sales (1,00,000 x 88)	88,00,000	
Less : Variable costs (1,00,000 x 76)	76,00,000	12,00,000
Company's profit		29,00,000
At transfer price of ₹ 95 per unit		
Division X		
Budgeted profit	25,00,000	
Less : Additional cost (1,00,000 x 15)	15,00,000	10,00,000
Division Y		
Sales (1,00,000 x 95)	95,00,000	
Less : Variable costs (1,00,000 x 76)	76,00,000	19,00,000
Company's profit		29,00,000
At transfer price of ₹ 100 per unit		
Division X		
Budgeted profit	25,00,000	
Less : Additional cost (1,00,000 x 20)	20,00,000	5,00,000
Division Y		
Sales (1,00,000 x 100)	1,00,00,000	
Less : Variable costs (1,00,000 x 76)	76,00,000	24,00,000
Company's profit		29,00,000

(ii) Comments on the different transfer prices :

(a) Transfer price of ₹ 80 gives a good incentive to Manager of Division X. However, there is no incentive to Manager of Division Y though he can sell his product outside and earn better profits.

(b) Transfer price of ₹ 88 reduces the profit of Division X. However, boosts the performance of Division Y.

(c) Transfer price of ₹ 95 reduces further the profits of Division X. However, it improves the profit of Division Y.

(d) Transfer price of ₹ 100 will infuse confidence in Division X to stand on its own feet. The performance of Division Y will improve automatically.

(iii) Regardless of the views of the individual managers, the position may be as under :

Division Y may sell entire quantity of R at the market price of ₹ 100 to outsiders

Statement of profitability

Division X		
Budgeted profit	25,00,000	
Less : Additional cost (1,00,000 x 15)	15,00,000	10,00,000
Division Y		
Sales (1,00,000 x 100)	1,00,00,000	
Less : Variable costs (1,00,000 x 76)	76,00,000	24,00,000
Company's profit		34,00,000

(b) Trident Ltd. is engaged in marketing of wide range of consumer goods. A,B,C and D are the zonal sales officers for four zones. The company fixes annual sales target for them individually. You are furnished with the following :

(i) The standard costs of sales target is respect of A,B,C and D are ₹ 5,00,000, ₹ 3,75,000, ₹ 4,00,000 and ₹ 4,25,000 respectively.

(ii) A,B, C and D respectively earned ₹ 29,900, ₹ 23,500, ₹ 24,500 and ₹ 25,800 as commission at 5% on actual sales effected by them during the previous year.

(iii) The relevant variances as computed by a qualified cost accountant are as follows :

₹

Particulars	A	B	C	D
Sales price variance	4,000 (A)	6,000 (A)	5,000 (A)	2,000(A)
Sales volume variance	6,000 (A)	26,000 (A)	15,000 (F)	8,000 (F)
Sales margin mix variance	14,000 (A)	8,000 (F)	17,000 (F)	3,000 (A)

(A) = Adverse variance and (F) = Favourable variance

You are required to :

(i) Compute the amount of sales target fixed and the actual amount of contribution earned in case of each of the zonal sales officer.

(ii) Evaluate the overall performance of these zonal sales officers taking three relevant base factors and then recommend whose performance is the best. (4+4=8)

Answer.

(i) Statement showing computation of amount of sales target fixed and the actual amount of contribution earned Zone wise (₹'000)

Zonal sales officers	A	B	C	D
Actual sales	598	470	490	516
Sales price variance	4(F)	6(A)	5(A)	2(A)
Sales volume variance	6(A)	26(F)	15(F)	8(F)
Sales target	600	450	480	510
Standard cost of sales target	500	275	400	425
Standard profit margin	100	75	80	85
Sales margin mix variance	14(A)	8(F)	17(F)	3(A)
Sales price variance	4(F)	6(A)	5(A)	2(A)
Actual margin	90	77	92	80
Actual commission earned (5% of actual sales)	29.9	23.5	24.5	25.8

The sales margin, quantity margin is not given in the problem and hence it is assumed as nil.

(ii) Statement showing evaluation of the overall performance of Zonal Sales Officers

Base factors used in evaluation of performance	Zonal Sales Officers			
	A	B	C	D
Contribution earned				
Actual contribution earned to the company	90	77	92	80
Rank	II	IV	I	III
Realization of sales target				
Actual sales (A)	598	470	490	516
% of actual sales to sales target (B)	600	450	480	510
Sales target (A/B) x 100	99.67	104.44	102.08	101.18
Rank	IV	I	II	III
Ranking based on sales margin achieved (%)				
Std margin/ Sales target	16.67	16.67	16.67	16.67
Actual margin/Actual sales	15.05	16.38	18.78	15.50
Rank	IV	II	I	III

The above analysis shows that the performance of Zonal Sales Officer C is the best.

Section B – Answer any one question from this section

5. (a) Your Firm has been appointed as Auditor of ABC Co. The Company has also appointed a Cost Auditor and therefore, the Management had requested your firm not to review Cost Records. Comment (3)

Answer.

The Management's contention is not correct due to the following reasons

(i) Sec 233 (B) – The Central Government has the power the order Cost Audit in certain cases. However, it points out that the audit conducted by Cost Auditor shall be in addition to the audit conducted by a Statutory Auditor.

(ii) Section 227 (3) – The Statutory Auditor shall report whether in his opinion, proper books of account as required by law have been kept by the Company, so far it appears from his examination of those books. Proper books of account include Cost Records. Thus, it is the statutory duty of the Auditor to review Cost Records maintenance.

(iii) CARO, 2004 – If the Central Government had prescribed maintenance of Cost Records u/s 209(1)(d), the Auditor shall report on whether or not such accounts and records have been prepared and maintained properly.

(b) What are the provisions of exemption from Cost Audit ? (6)

Answer.

The exemption from cost audit can be availed on year-to-year basis in the following situation :

(i) temporary closure of the company/products

(ii) negligible production activity

The applicable fees are :

Company having an authorized capital	Amount of fees to be paid
Less than ₹ 25 lakh	₹ 500
₹ 25 lakh or more but less than ₹ 5 crore	₹ 1,000
₹ 5 crore or more	₹ 2,000

Documents required to be furnished along with application for exemption :

(i) true copy of complete Annual Report containing balance sheet and profit and loss account for the year for which exemption is being sought along with copies of the same pertaining to preceding two years.

(ii) An affidavit containing full facts of capacity utilization, turnover and financial status of the company, duly signed by two Directors of the company and authenticated by a Notary Public.

(iii) A brief note/status report on steps taken by the management for revival of the said unit.

(c) Write short note on –True and Fair Cost of Production. (4)

Answer.

The Cost Auditor is required to express his opinion on true and fair cost. The cost is said to be true and fair if :

(i) Accepted cost Accounting principles have been applied while arriving at the cost.

(ii) Costing principles are applied on a consistent basis.

(iii) Costing system appropriate to product is used.
(iv) All material items are considered while arriving at the cost.
(v) Cost sheet is prepared in prescribed form.
(vi) There is elimination of prior period adjustments in cost sheet.
(vii) Abnormal losses are ignored in determination of cost.

(d) Variance Accounting is also part of a system of Cost Records. Explain (3)

Answer.
The company may maintain Cost Records on any basis other than actual, i.e., Standard Costing System. In such case, the Cost Records should revel the following :

(i) Particulars of norms and standards established – both physical and financial
(ii) Details of variances recognized and accounted by the Costing System.
(iii) Time of recognition of variances and the method of accounting – either single plan or partial plan.
(iv) Method of disposition of variances at the end of the period.

6. (a) For what purposes the Cost Auditor refers to Financial Records while conducting the Cost Audit of an entity ? (4)

Answer.
Audit Programme – The Cost Audit programme encompasses the regular financial audit procedures like vouching of expenses, verification of assets and determination of cost of assets, etc. hence, financial records should also be seen.
Profit Reconciliation – The Cost Auditor is expected to verify whether the company has reconciled the profits shown by Cost Records with the profit as per Financial Books. Also, the profits of products covered by the Rules and profits from other products should be segregated. Verification of the Profit Reconciliation Statement calls for a reference to the Financial Ledger also.
Common Information – The Company has to disclose quantitative details of Licensed Capacity, Installed Capacity, Actual Production, Raw Materials Consumption, Finished Goods Sold, Stocks etc. these are common to both financial and cost records and hence the data will be same. Hence, the Cost Auditor has to refer to the financial records also.
Error detection – A comparison between cost records and financial records may throw up the need for inquiry into errors, mistakes and manipulation. Material discrepancy between financial records and cost records will be highlighted in the Reconciliation Statement which would require that the Cost Auditor may examine deviation before reporting on the same.

Hence, it can be inferred that there is a considerable overlapping between financial and cost records. In case of discrepancies or differences, it is desirable that the Cost Auditor should communicate the same to the Company Auditor.

(b) "It is not possible to merge Cost Audit with Financial Audit to have a Composite Audit." Discuss. (8)

Answer.
Even though there are considerable areas of overlapping between cost and financial records, a composite audit requirement between the two is not feasible on the following grounds :

(i) Different information systems – It is difficult to collect the accounting information required for cost ad financial audit purposes, in a single format.

(ii) Objective of audit – The main objective of financial audit is to express an opinion on the truth and fairness of the information contained in the financial statements. But the main objective of cost audit is to verify the cost statements and see whether a true and fair cost of production and of marketing has been worked out.

(iii) Focus of audit – Cost Audit focuses on review of information in respect of each cost element in detail. Hence, the focus of audit and review of information is much different from that of financial audit.

(iv) Classification of accounting data – Financial Accounts present data under the natural accounting heads. However, Cost Records present information based on product lines and cost-centres.

(v) Confidentiality – The Financial Audit Report is too general and is made public as per the requirements of the Companies Act, 1956. The Cost Auditor Report may contain certain information which the Company considers confidential.

(vi) Applicability – The maintenance of Cost Accounting Records by all types of industries may also not be practicable. At present, small-scale industrial undertakings are exempted from maintaining Cost Accounting Records, even of they belong to industry which is required to maintain Cost Records.

(vii) Toll of management – Cost Audit can be considered as tool of internal management by a Company to operate effectively in a competitive environment by disclosing weaknesses in a cost accounting system and disclosing inefficiencies at all levels of organization. On the other hand, Financial Audit can give a picture of the overall results only.

(viii) Extensive nature – The Cost Auditor does not have to state only whether the Cost Statements reflect a true and fair view, but has to go much beyond and express his opinion also on propriety and efficiency aspects.

(c) Sufficient details should be available in Cost Records, on Packing Materials. Comment. (4)

Answer.

In addition to details on Raw Material and other inputs the Cost Records must also show –

(i) Quantity and Cost of packing materials e.g., tins, cartons, gunny bags, other materials etc.

(ii) Details of wastages, spoilage, rejections and losses of packing materials, with reasons thereof. Scrap value of wastage, if any, should be suitably adjusted in respect of normal and abnormal losses.

(iii) Wages and other expenses incurred in packing of products – both product-wise and size-wise.

(iv) Proper allocation of packing expenses for various products, i.e., those which are covered by the Rules and other products.

Section C – Answer any two from this section

7. (a) The market demand for 3 individuals x, y, & z is given by p = 100 – 2qx, p = 50 - ½qy, p = 50 - ¼qz

(i) Estimate the equilibrium price & quantity if market supply is qs = 50 + 1.5p.

(ii) The amounts purchased by each buyer.

(iii) At p = 30, estimated for each buyer. (2+2+2=6)

Answer.

(i) From the given equations

$qx = 50 - \frac{1}{2}p$, $qy = 100 - 2p$ and $qz = 200 - 4p$.

$\therefore$ Market demand $qx + qy + qz = 350 - \frac{13p}{2} = qd$

At equilibrium $qd = qs \Rightarrow 350 - \frac{13}{2}p = 50 + 1.5p$.

$\Rightarrow P_o = 37.5$

$\therefore \quad q_o = 50 + 1.5(37.5) = 106.25$

(ii) $\therefore qx = 50 - \frac{1}{2}(37.5) = 31.25$

$qy = 100 - 2(37.5) = 25$

$qz = 200 - 4(37.5) = 50$

(ii) At P = 30, $qx = 50 - \frac{1}{2}(30) = 35$ with $\frac{dqx}{dp} = \frac{-1}{2}$

$\therefore ed, x = \frac{dqx}{dp} \cdot \frac{p}{qx} = -\frac{1}{2} \cdot \frac{30}{35} \Rightarrow |ed, x| = 0.42$

At P = 30, $qy = 100 - 2(30) = 40$ with $\frac{dqx}{dp} = -2$

$\therefore ed, y = \frac{dqy}{dp} \cdot \frac{p}{qy} = \frac{-2.30}{40} = -1.5 \Rightarrow |ed, y| = 1.5$

At P = 30, $q_3 = 200 - 4(30) = 120$ with $\frac{dqz}{dp} = -4$

$\therefore ed, z = \frac{dqz}{dp} \cdot \frac{p}{qz} = -4 \times \frac{30}{120} = -1 \Rightarrow |ed, z| = 1.$

(b) If $C = q^2 + 5q + 36$, show that a minimum AC, AC = MC. **(2)**

Answer.

We have $AC = \frac{c}{q} = q + 5 + \frac{36}{q}$

And $MC = \frac{d(c)}{dq} = 2q + 5$

For minimum AC, $\frac{d(AC)}{dq} = 0 \Rightarrow 1 - \frac{36}{q^2} = 0 \Rightarrow q = 6.$

At $q = 6$, $AC = 6 + 5 + \frac{36}{6} = 17$ and $MC = 2 \times 6 \times 5 = 17.$

(c) What is Demand ? **(4)**

Answer.

In Economics demand shows the relationship between the prices of a commodity and the quantity of the commodity which the consumer wants to buy at those prices. Demand in

Economics is essentially the attitude and reaction of a consumer towards the commodity he wants to buy. Mere desire or wants for a commodity does not constitute demand in Economics.

The desire for a commodity backed by ability and willingness to pay is said to be true demand or effective demand in Economics. A poor beggar who hardly makes both ends meet may wish to have a car but his wish or desire will not constitute demand for car as he can't afford to pay for it although he has desire and willingness to pay.

Thus three things are essential for a desire for a commodity to become effective demand- (1) desire for a .commodity, (2) willingness to pay (3) ability to pay for the commodity.

Demand is meaningless without reference to price and time. The amount demanded must refer to some period of time viz. a year, a month or a week. Demand is expressed with reference to a particular point of time. Likewise demand is always at a price. It means the amount demanded bought at particular going price. The desire without price is not demand in Economics.

Precisely states the demand for a commodity is-the quantity of if that a consumer will buy at various given prices at a given moment of time. Benham states "the demand for anything at given price is the amount of it which will be bought per unit of time at that price".

8. (a) The price elasticity of demand of suitcases is -2.5 and firm is able to sell 12,000 per year at ₹ 700/each.

(i) If it wants to sell 15,000 per year, by how much should it lower the price?

(ii) What will be the change in total revenue? (2+2=4)

Answer.

We know $ed = \frac{\Delta q}{\Delta p}.\frac{p}{q}$

Now $\Delta q = 15000 - 12000 = 3000$

$\Delta p = x - 700$ if x is the final price.

P and q is chosen as a average values.

i.e., $p = \frac{x+700}{2}$, $q = \frac{15000+12000}{2}$

$\therefore \quad -2.5 = \left(\frac{3000}{x-700}\right)\left(\frac{(x+700)/2}{15000+12000)/2}\right) \Rightarrow x = 640.$

$\therefore$ Price must be reduced by 700 – 640 i.e., ₹ 60.

Initial TR = pq = 12000 x 700 = ₹ 84,00,000

Final TR(p_1q_1) = 15000 x 640 = ₹ 96,00,000

$\therefore$ TR rises by ₹ 12,00,000.

(b) The market supply and the demand equations for wrist watches are qs = 600 + 2p and qd = 1600 – 3p.

If the market is competitive, and we have TC = 50,000 + q^2 – 200q, calculate

(i) q_0 and π_0

(ii) Is the industry in equilibrium? (3+1=4)

Answer.

(i) We know that in a competitive market, P_0 is determined by equating industry demand and supply i.e., $q_s = q_D$

$\Rightarrow 600 + 2p = 1600 - 3p \Rightarrow Po = 200.$

Given $TC = 50000 + q^2 - 200q \Rightarrow MC = 2q - 200.$

At equilibrium we have $Po = MC \Rightarrow 200 = 2q - 200.$

$\therefore q_0 = 200.$

$\therefore \pi_0 = p_o q_o - [50,000 + q_0^2 - 200q_0]$

$= 200 \times 200 - [50,000 + 200 \times 200 - 200 \times 200] = -10,000$

(ii) As the economic profits are negative i.e., as there are losses the industry is not in equilibrium. So firms will leave the industry.

(c) What are the criteria of a good forecasting method? (4)

Answer.

(i) **Accuracy -** It is essential to check the accuracy of the past forecasts against present performance and of present forecast against future performance.

(ii) **Simplicity and Ease of comprehension-**Management must be able to understand the method of demand forecasting used and must have confidence in it. Too much of mathematical and econometric procedures may not find favour with the management.

(iii) **Economy-** A good demand forecasting method is one which is highly economical. Thus it is necessary to compare the cost of the forecasting method against its likely benefits. It is desirable so to undertake cost benefit analysis.

(iv) **Durability-** The technique of demand forecasting must be durable.

(v) **Effective-** The technique used for demand forecasting should be able to give meaningful result as early as possible. So the technique must be effective and productive.

(vi) **Flexibility-** The forecasting procedure should permit changes to be made in the relationship between different variables as & when needed. It must be not rigid.

(vii) **Maintenance of timeliness-** It must be in up to date basis. There must be continuous alterations & addition involving latest information and data.

(viii) Longer the lead time the forecast has before the event, the greater will be its usefulness.

9. (a) What are the exceptions to the law of demand ? Explain with example. (6)

Answer.

The law of demand does not apply in every case and situation. The circumstances when the law of demand becomes ineffective are known as exceptions of the law. Some of these important exceptions are as under.

Giffen goods:

Some special varieties of inferior goods are termed as Giffen goods. Cheaper varieties of this category like bajra, cheaper vegetable like potato come under this category. Sir Robert Giffen or Ireland first observed that people used to spend more their income on inferior goods like potato and less of their income on meat. But potatoes constitute their staple food. When the price of potato increased, after purchasing potato they did not have so many surpluses to buy meat. So the rise in price of potato compelled people to buy more potato and thus raised the demand for potato. This is against the law of demand. This is also known as Giffen paradox.

Conspicuous Consumption:
This exception to the law of demand is associated with the doctrine propounded by Thorsten Veblen. A few goods like diamonds etc are purchased by the rich and wealthy sections of the society. The prices of these goods are so high that they are beyond the reach of the common man. The higher the price of the diamond the higher the prestige value of it. So when price of these goods falls, the consumers think that the prestige value of these goods comes down. So quantity demanded of these goods falls with fall in their price. So the law of demand does not hold good here.

Conspicuous necessities:
Certain things become the necessities of modern life. So we have to purchase them despite their high price. The demand for T.V. sets, automobiles and refrigerators etc. has not gone down in spite of the increase in their price. These things have become the symbol of status. So they are purchased despite their rising price. These can be termed as "U" sector goods.

Ignorance:
A consumer's ignorance is another factor that at times induces him to purchase more of the commodity at a higher price. This is especially so when the consumer is haunted by the phobia that a high-priced commodity is better in quality than a low-priced one.

Emergencies:
Emergencies like war, famine etc. negate the operation of the law of demand. At such times, households behave in an abnormal way. Households accentuate scarcities and induce further price rises by making increased purchases even at higher prices during such periods. During depression, on the other hand, no fall in price is a sufficient inducement for consumers to demand more.

Future changes in prices:
Households also act speculators. When the prices are rising households tend to purchase large quantities of the commodity out of the apprehension that prices may still go up. When prices are expected to fall further, they wait to buy goods in future at still lower prices. So quantity demanded falls when prices are falling.

Change in fashion:
A change in fashion and tastes affects the market for a commodity. When a broad toe shoe replaces a narrow toe, no amount of reduction in the price of the latter is sufficient to clear the stocks. Broad toe on the other hand, will have more customers even though its price may be going up. The law of demand becomes ineffective.

(b) What are factors influencing price of a product ? (6)

Answer.
Companies develop pricing strategies after considering a variety of factors. Your product or service prices impact your profitability as well as the perception of your brand in the marketplace. Setting prices that are too high can prevent customers from buying your products. If you set prices too low, you could miss out on additional profits.

Value
The value customers perceive in your product is an important factor. If you charge ₹10 for a product that customers generally feel is worth ₹5 or ₹6, you may not get enough volume to generate suitable profits. In the same way, if customers see more value than what you charge, you could miss out. However, giving customers a good deal means having them feel like they go more than they paid for.

Profit Margin Goals
Some companies simply determine how much profit they want to make on products. If the norm in an industry is a 30 percent mark-up, you might set prices that give you a 30 percent profit. A

challenge with this approach is that if your costs increase, you would have to increase the prices you charge to customers to maintain your profit margin goals.

Competitors

In highly competitive industries, it is common to study the price points of competitors. You can set prices that are relatively in line with competitors — with flexibility to go higher or lower, as needed. If you want to attract customers and undercut the competition, setting prices 5 to 10 percent below competing companies makes sense.

Quality

Customers typically perceive that your price says something about the quality of your products. If you market you brand and products as top quality, a higher price point that matches adds consistency. Promoting a premium product at a low-end price may confuse customers, and more importantly, it is impractical to have the top product or service without paying to get it. If you produce or acquire a great product, you would need a higher market price to cover its costs.

Financial Objectives

In general, your emphasis on revenue or profits impacts your approach to pricing. If you are trying to generate revenue and cash in the short-run, discounted prices is common. To achieve long-term profits by optimizing margins, you need higher price points and customers that become loyalty to your business.