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TEST-2

CA INTER

(22-05-2022)

COST AND MANAGEMENT ACCOUNTING

Topics Covered: Marginal Costing

Roll No ...654287.....

Total No. of Question: 15

Time allowed: 3 hours

Total No. of Printed Pages: 7

Maximum Marks: 100

Answer to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

All Questions are compulsory.

Working notes should form part of the answer.

Q.1 If Break even sales is 60% of sales, find fixed costs when profit is ₹ 1,50,000. Evaluate the required sales for desired profit of 40% of sales [3]

Q.2 Anuradha Enterprises manufactures and sells black phenyl worth ₹20,000, white phenyl worth ₹25,000; scented phenyl worth ₹10,000 and naphthalene balls worth ₹5,000 every month. The firm's total fixed costs per month are ₹14,700. The variable costs are: on black phenyl 60%, on white phenyl 68%, on scented phenyl 80%, and on naphthalene balls 40%.

The proprietrix, Ms. Anuradha shah, being basically a science graduate, wonders at what combined sales volume does she really start earning profit. Please help her in arriving at such a sales volume.

[4]

Q.3 A company makes 1,500 units of a product for which the profitability statement is given below:

	₹
Sales	1,20,000
Direct materials	30,000
Direct labour	36,000
Variable OH	15,000
Subtotal variable cost	81,000
Fixed cost	16,800
Total cost	97,800
Profit	22,200

After the first 500 units of production, the company has to pay a premium of ₹ 6 per unit towards overtime labour. The premium so paid has been included in the direct labour cost of ₹ 36,000 given above.

You are required to compute the Break -even point.

[6]

Q.4 The following information of a company is available for the year 2006:

	₹
Sales	40,000
Raw materials	20,000
Direct wages	6,000
Variable and fixed OH	10,000
Profit	4,000
Units sold	200 Nos.

In the year 2007, wages rate will increase by 50% and fixed cost will decrease by ₹600. If 300 units are sold in 2007, the total fixed and variable O/H will be 11,400. **How many** units should be sold in 2007, so that the same amount of profit per unit as in year 2006 may be earned?

[6]

Q.5 Navbharat Commerce College, Bombay has six sections of B.Com, and two sections of M. Com with 40 and 30 student per section respectively. The college plans one day pleasure trip around the city for the students once in an academic session during winter break to visit park, Zoo, planetarium and aquarium.

A Transporter used to provide the required number of buses at a flat rate of ₹ 700 per bus for the aforesaid purpose. In addition, a special permit fee of ₹ 50 per bus is required to be deposited with city municipal corporation. Each bus is 52 seater. Two seats are reserved for teachers who accompany in each bus. Each teachers is paid allowance of ₹ 100 for the day. No other costs in respect of teachers are relevant to the trip.

The approved caterers of the collage supply breakfast, lunch and afternoon tea respectively at ₹ 7, ₹30 and ₹3 per student.

No entrance fee is charged at the park. Entrance fees come to ₹ 5 per student both for the zoo and the aquarium. As regards planetarium the authorities charge block entrance fee as under for group of students of educational institutions depending upon the number of students in a group:

Number of Students in a Group	Block Entrance Fee
	₹
Upto 100	200
101-200	300
201 & above	450

Cost of prizes to be awarded to the winners in different games being arranged in the park depends upon the strength of students in a trip. Cost of prizes to be distributed is:

Number of Students In a Trip	Cost of Prizes
	₹
Upto 50	900
51-125	1,050
126-150	1,200
151-200	1,300
201-250	1,400
251 & above	1,500

To meet the above costs the college collects ₹ 65 from each student who wish to join the trip. The college releases subsidy of ₹ 10 per student in the trip towards it.

You are required to:

- Prepare a tabulated statement showing total costs at the levels of 60, 120, 180, 240 and 300 students indicating each item of cost.
 - Compute average cost per student at each of the above levels.
- Calculate the number of students to break even for the trip as the college suffered loss during the previous year despite 72% of the student having joined the trip.

[10]

Q.6 Paramount food products is a new entrant in the market for chocolates. It has introduced a new product-Sweetee. This is a small rectangular chocolate bar. The bars are wrapped in aluminum foil and packed in attractive cartons containing 50 bars. A carton, is therefore, considered the basic sales unit. Although management had made detailed estimates of costs and volumes prior to undertaking this venture, new projections based on actual cost experience are now required.

Income statements for the last two quarters are each thought to be representative of the costs and productive efficiency we can expect in the next few quarters. There were virtually no inventories on hand at the each quarter. The income statement reveals the following:-

	First Quarter	Second Quarter
Sales:		
50,000 x ₹ 24	12,00,000	-
70,000 x ₹ 24	-	16,80,000
Cost of Goods Sold	<u>7,00,000</u>	<u>8,80,000</u>
Gross Margin	5,00,000	8,00,000
Selling And Administration	<u>6,50,000</u>	<u>6,90,000</u>
Net Income (Loss) Before Taxes	(1,50,000)	1,10,000
Tax (Negative)	<u>60,000</u>	<u>44,000</u>
Net Income (Loss)	(90,000)	66,000

The firm's overall marginal and average income-tax rate is 40%. This 40% figure has been used to estimate the tax liability arising from the chocolate operations.

Required:

Management would like to know the break-even point in terms of quarterly carton sales for the chocolates. Management estimates that there is an investment of ₹ 30,00,000 in this product line.

What quarterly carton sales and total revenue are required in each quarter to earn an after-tax return of 20% per annum on investment?

The firm's marketing people predict that if the selling price is reduced by ₹ 1.50 per carton (Re. 0.03 off per chocolate bar) and a ₹ 1,50,000 advertising campaign among school children is mounted sales will increase by 20% over the second quarter sales. Should the plan be implemented? [8]

Draw and explain the angle of incidence in a break - even chart. What is its significance to the management? [3]

Q.7 The relevant data of X Ltd. for its three products A, B and C are as under:-

	A	B	C
Direct Material (₹/ Unit)	260	300	250
Direct Labour (₹ /Unit)	130	270	260
Variable Overheads (₹ /Unit)	110	230	180
Selling Price (₹/ Unit)	860	1,140	930
Machine Hours Required (Per Unit)	12	6	3

The estimated fixed overheads at four different levels at 3,600; 6,000; 8,400 and 10,800 machine hours are ₹ 1,00,000; ₹ 1,50,000; ₹ 2,20,000 and ₹ 3,00,000 respectively. The maximum demand of A, B, and C in a cost period are 500; 300 and 1,800 units respectively.

You are required to find out (i) the most profitable product-mix at each level and (ii) the level of activity where the profit would be maximum. [6]

Q.8 When volume is 6,000 units, average cost is ₹ 4 per unit, When volume is 8,000 units, average cost is ₹ 3.75. The break-even point is 40%. Margin of Safety 3,000 units. **Find** the profit-volume ratio. **Calculate** Sales if desired profit is 20% of sales. [4]

Q.9 Shri Maan manufactures lighters. He sells his product at ₹20 each, and makes profit of ₹5 on each lighter. He worked 50% of his machinery capacity at 50,000 lighters. The cost of each lighter is as under:

Direct material	₹6
Wages	₹2
Works overhead	₹5 (50% fixed)
Sales expenses	₹2 (25% variable)
His anticipation for the next year is that the cost will go up as under:	
Fixed charges	15%
Direct labour	25%
Material	5%

There will not be any change in selling price. There is an additional order for 25,000 lighters in the next year.

What is the lowest rate he can quote so that he can earn the same profit as the current year? [10]

Q.10 Son of Agra presently operates its plant at 80% of the normal capacity to manufacture a product only to meet the demand of Government of Tamil Nadu under a rate contract.

He supplies the product for ₹4,00,000 and earns a profit margin of 20% on sales realization. Direct cost per unit is constant. The indirect costs as per his budget projections are:

Indirect costs	20,000 units	22,500 units	25,000 units
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	(80% capacity)	(90% capacity)	(100% capacity)
Variable	₹80,000	₹90,000	₹1,00,000
Semi-variable	60,000	65,000	70,000
Fixed	80,000	80,000	80,000

He has received an export order for the product equal to 20% of its present operations. Additional packing charges on this order will be ₹5,000. **Arrive at the price** to be quoted for the export order to give him a profit margin of 15% on the export price.

[8]

- Q.11** After installing a system of collection of cost data, the Cost Accountant observed that out of the three products which are produced independent of each other, loss is being incurred on product B. He immediately decides to advice management to discontinue manufacture of this product supported by the following tabulation:

Particulars	Product A	Product B	Product C
Sales	₹1,00,000	₹65,000	₹4,90,000
Variable Manufacturing Cost	52,000	26,000	1,40,000
Fixed Manufacturing Overheads (apportioned)	6,500	19,000	1,05,000
Variable Selling and Administration Cost	18,000	17,000	18,000
Fixed selling and administration Cost	4,600	4,600	4,000
Total Cost	81,100	66,600	2,67,000
Net Profit / Net Loss	18,900	(1,600)	2,23,000

Do you agree with Cost Accountant's conclusions? Argue your own views on the basis of data. [5]

- Q.12** ABC Ltd. has developed a new product which is about to be launched into the market. The variable cost of selling the product is ₹18 per unit. The marketing department has estimated that at a sale price of ₹25, annual demand would be 15,000 units. However, if the sale price is set above ₹35 sales demand would fall by 500 units for each Re.0.50 increase above ₹35. Similarly, if the price is below ₹35, demand would increase by 500 units for each Re.0.50 stepped reduction in price below ₹35.

Determine the price which would maximize ABC Ltd.'s profit in the next year.

[5]

- Q.13** (i) The breakeven point of a manufacturing company is ₹1,60,000. Fixed cost is ₹48,000. Variable cost is ₹12 per unit. **Determine** the contribution margin ratio.

[3]

(ii) When Production is 4,000 units, average cost is ₹5 per unit, When production is 5,000 units, average cost is ₹4.60. The break-even point is 5,000 units. **Find** the profit-volume ratio.

[4]

(iii) R Ltd. manufactures three products X, Y and Z. The unit selling prices of these products are ₹100, ₹160 and ₹75 respectively. The corresponding unit variable costs are ₹60, ₹90 and ₹40. The proportions (quantity wise) in which these products are manufactured and sold are 30%, 20% and 50% respectively. The total fixed costs are ₹15,00,000.

Calculate (i) overall break even quantity and (ii) the product wise break up of such quantity. [4]

- Q.14** XY Ltd is manufacturing three household products A, B and C, and selling them in a competitive market. Details of current demand, selling price and cost structure are given below:

	A	B	C
Expected demand (units)	10,000	12,000	20,000
Selling price per unit (₹)	25	20	15
Variable cost per unit (₹)			
Direct materials ₹10/kg	6	4	2
Direct labour ₹15/hr.	6	3	1.50
Variable overheads	2	1	1

Fixed overhead per unit (₹)	5	4	2
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The company is frequently affected by acute scarcity of raw material and high labour turnover. During the next period it is expected to have one of the following situations:

- (a) Raw materials available will be only 12,800 kg.
- (b) Direct labour hours available will be only 6,200 hrs.

Determine the Optimum Product Mix.

[6]

Q.15 A machine manufactures 10,000 units of a part at a total cost of ₹21 of which ₹18 is variable. This part is readily available in the market at ₹19 per unit.

If the part is purchased from the market then the machine can either be utilized to manufacture a component in same quantity contributing ₹3 per component or it can be hired out at ₹21,000.

Recommend which of the alternative is profitable.

[5]

SPACE FOR ROUGH WORK