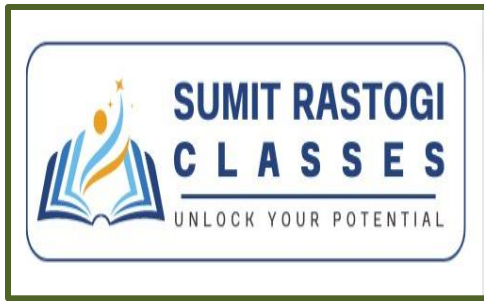




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TEST PAPER-03

(Chapter Covered - Introduction to MA, ABC, Decision Making)

MANAGEMENT ACCOUNTING

Time Allowed: 3 Hours

Full Marks: 100

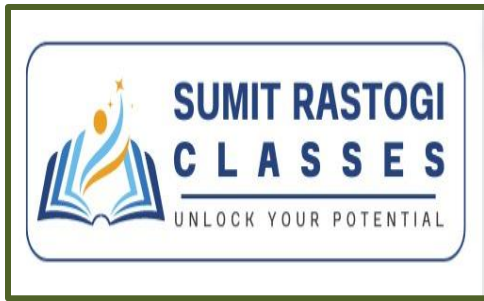
**Section A contains Question Number 1. All parts of this question are compulsory.
Working notes should form part of the relevant answer.**

SECTION - A

1. Choose the correct answer from the given alternatives (you may write only the Roman number and the alphabet of your answer).

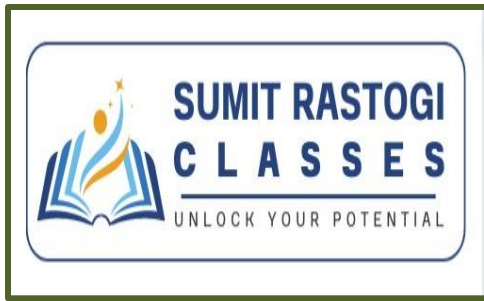
(15 X 2 = 30)

- (i) Which statement best describes the role of the management accountant?
- (A) Management accountants prepare the financial statements for an organization.
 - (B) Management accountants facilitate the decision-making process within an organization.
 - (C) Management accountants make the principal decisions within an organization.
 - (D) Management accountants are basically information collectors.
- (ii) The well-known basic function of management is:
- (A) Motivating
 - (B) Leadership
 - (C) Decision-making
 - (D) Communicating
- (iii) One of the following is not within the scope of Management Accounting:
- (A) Formulation of policies
 - (B) Classification and collection of costs
 - (C) Planning and coordinating the activities of the enterprise
 - (D) Decision-making on alternative courses of action



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- (iv) Which of the following accounting records both qualitative and quantitative aspect?
(A) Green Accounting
(B) Management Accounting
(C) Financial Accounting
(D) Cost Accounting
- (v) Type of accounting which measures, reports and analyse non-financial and financial information to help in decision making is called:
(A) Financial Accounting
(B) Management Accounting
(C) Cost Accounting
(D) Green Accounting
- (vi) Which of the following operating measures would a manager would like to see decreasing over time?
(A) Merchandise Inventory Turnover
(B) Total quality cost
(C) % of on-time deliveries
(D) Finished Goods Inventory Turnover
- (vii) Management Accounting:
(A) Accumulates, summarizes and analyses the available data.
(B) Is primarily concerned with the requirements of the management
(C) Makes Corporate Planning and Strategy effective.
(D) All of the above
- (viii) In a product mix decision, which is the most important factor to consider in order to try to maximize profit?
(A) Contribution per unit of a scarce resource used to make the product
(B) Contribution per unit of the product
(C) Variable cost per unit of the product
(D) Selling price per unit
- (ix) In 'make or buy' decisions, it is profitable to buy from outside only when the Suppliers's price is below the firm's own _____.
(A) Fixed Cost
(B) Variable cost
(C) Sunk Cost
(D) None

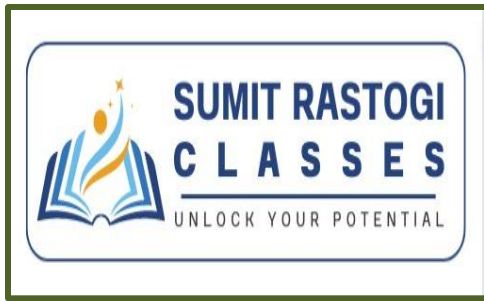


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- (x) RTM Ltd. using Activity Based Costing (ABC), manufactures two types of products P and Q respectively. During a period, the company incurred ₹50,000 as inspection cost and it worked for 10 and 15 production runs respectively for producing P and Q. The inspection cost for product P under ABC system was:
 (A) ₹20,000
 (B) ₹30,000
 (C) ₹40,000
 (D) None of the above
- (xi) The term _____ is used to describe a location to which overhead costs are initially assigned.
 (A) Cost Driver
 (B) Cost Pool
 (C) Activity
 (D) Cost Objects
- (xii) In Activity Based Costing, the allocation basis used for applying costs to services or products is called _____.
 (A) Cost Drivers
 (B) Direct Labour Hours
 (C) Direct Materials Cost
 (D) Activity Consumption
- (xiii) Management accounting is concerned with data collection from:
 (A) Internal sources
 (B) External sources
 (C) Internal and external sources
 (D) Internal or external sources
- (xiv) A company manufactures two products using common handling facility. The total budgeted material handling cost is ₹ 60,000. Other details are:

Particulars	Product A	Product B
Number of units produced	30	30
Material moves per product line	5	15

- Under Activity Based Costing System, material handling cost to be allocated to Product A per unit is:
 (A) ₹ 1,000
 (B) ₹ 1,500
 (C) ₹ 500
 (D) ₹ 2,500
- (xv) Management Accounting is largely based on estimates and as such total accuracy is not ensured under Management Accounting.
 (A) True
 (B) False
 (C) Partly True
 (D) None



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SECTION – B

Answer any five questions from question number 2 to 8. (14×5 =70)

2 (a) KOOTCHAR LTD. Currently at 80% capacity has the following particulars:

Particulars	₹
Sales	48,00,000
Direct Materials	15,00,000
Direct Labour	6,00,000
Variable Overheads	3,00,000
Fixed Overheads	19,00,000

An export order has been received that would utilize half (50%) the capacity of the factory. The order cannot be split i.e. it both to be taken in full and executed at 10% below the normal domestic price or reject totally.

The alternatives available to the Management of the company are:

(i) Reject the order and continue with domestic sales only (as at present level of sales).

Or

(ii) Accept the order, split the capacity (100%) between overseas and domestic sales and turn away excess domestic demand.

Or

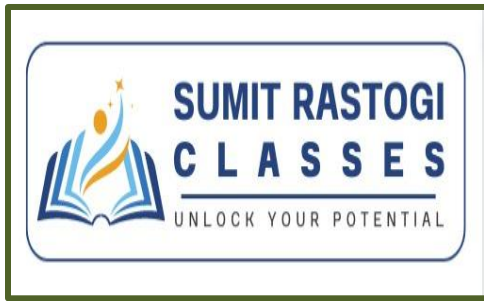
(iii) Increase capacity so as to accept the export order and maintain the present domestic sales by –

A. Buying an equipment that will increase capacity by 10%. This will result in an increase of ₹1,50,000 in fixed costs; and

B. Work overtime to meet balance of required capacity. In that case labour will be paid at one and half (1½) times the normal wage rate.

You are required to prepare a comparative statement of profitability and suggest the best alternative.

(7 Marks)



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2 (b) A company manufactures an Engineering product utilizing 90% Capacity and produces 10800 units at a selling price of ₹500 per unit. The following per unit Cost data is given:

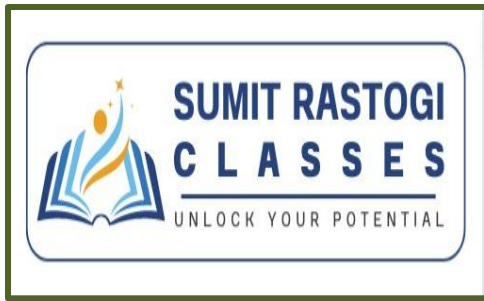
Particulars	₹
Raw Material	200
Direct Labour cost	60
Variable Overhead	40
Variable Factory Overhead	40

Dealer's commission **20% on selling price**
Fixed Cost **₹5,50,000 per annum**

The company was able to sell the entire products in the market to meet the demand of Local customers. Local market demand was for 10,800 units only. Now, one of the Dealer's is willing to purchase additional 1200 units provided selling price is reduced to ₹400 per unit and he is also willing to sacrifice 50% of his normal commission. Since the company has balance capacity of 10%, Management has expressed willingness to consider the proposal.

Fixed costs will remain unaltered. Management wants your views about the proposals.

(7 Marks)



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3 (a) MAGATRON LTD. produces and sells four products A, B, C and D. Details of the four products and relevant information are given below for week ended March 29, 2014:

Products	A	B	C	D
Output (units)	120	100	80	120
Cost per unit (₹)				
Direct Material	40	50	30	60
Direct Labour	28	21	14	21
Machine hours (per unit)	4	3	2	3

The four products are similar and are usually produced in production runs of 20 units and sold in batches of 10 units.

The production overheads during the period are as follows:

Particulars	₹
Factory works expenses	20,860
Set up costs	10,500
Stores receiving	7,200
Inspection/Quality control	4,200
Material handling and dispatch	9,240

The production overhead is currently absorbed by using Machine-hour rate and the company wishes to introduce Activity Based Costing (ABC) system and has identified major cost pools for production overheads and their associated cost drivers.

Information in these activity cost pools and their drivers is given below:

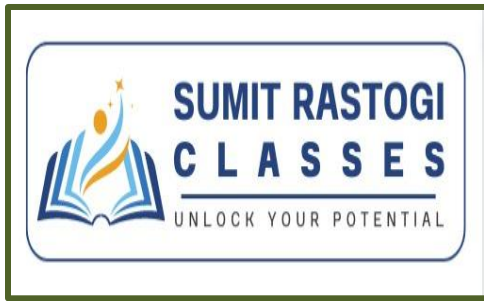
Activity Cost Pools	Cost Drivers
Factory Works Expenses	Machine-hours
Set up costs	Number of production runs
Stores receiving	Requisition raised
Inspection/Quality Control	Number of production runs
Material handling & dispatch	Number of orders executed

The number of requisitions raised on the stores was 20 for each product and number of orders executed was 42, each order being for a batch of 10 of a product.

Requirements:

- (i) Total cost of each product assuming the absorption of overhead on Machine-hour basis.
- (ii) Total cost of each product assuming the absorption of overhead by using Activity Based Costing.
- (iii) Show the difference between (i) and (ii) and Comment.

(7 Marks)



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3 (b) M/s. Zenith Co. Ltd. operating at normal capacity produces 1,00,000 units of a product which supplies the following particulars:

Particulars	(₹) Per unit
Direct Materials	32
Direct labour	12
Variable overhead	16
Fixed Overhead	15

- Sale Price per unit ₹100.
- In addition, Selling and Distribution cost of 5 per unit is incurred for selling each unit of product.
- As the company faces recession in the market, the Marketing Department desires to produce only 5000 units.
- But management is of the option to shut down the plant.
- If the plant is shutdown the loss due to fixed cost could be avoided for ₹4,00,000, but the committed unavoidable cost would be estimated at ₹2,95,000.

Required: Advise whether the plant should be shut down or not.

(7 Marks)

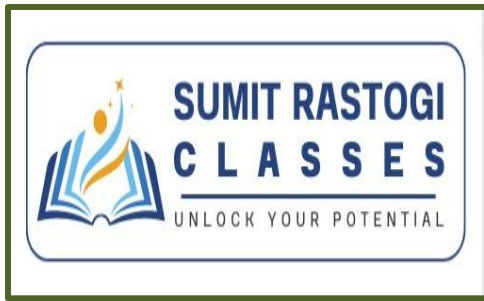
4 (a) MODERN LTD. has three departments X,Y and Z, each of which makes a different product. The budgeted data for the coming year are as follows:

Particulars	Amount (₹)		
	A	B	C
Sales	22,40,000	11,20,000	16,80,000
Direct materials	2,80,000	1,40,000	2,80,000
Direct labour	1,12,000	1,40,000	4,48,000
Direct expenses	2,80,000	1,40,000	5,60,000
Fixed Cost	5,60,000	2,80,000	5,60,000

The management of the company is considering to close down department 'Z'. There is a possibility of reducing fixed cost by ₹1,50,000 if department 'Z' is closed down.

Advise the management whether or not department 'Z' should be closed down.

(7 Marks)



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4 (b) Garur Ltd. manufactures several products and it uses a single overhead rate based on direct labour cost. The overheads incurred by the company for the year ending on 31st March 2016:

	₹
Machine operation expenses	20,25,000
Machine maintenance expenses	3,75,000
Salaries of technical staff	12,75,000
Wages and salaries of stores staff	5,25,000

During the period Garur Ltd. introduced activity-based costing system and the following activities were identified:

- Stores activity-receiving materials
- Production activity-set up of machines for production run
- Quality inspection

It is determined that:

- The machine operation and machine maintenance expenses should be apportioned between stores and production activity in 3:7 ratios.
- The technical staff salaries should be apportioned between stores activity, production activity and quality inspection in 6:64:30 ratios.

The consumption of activities during the year is as under:

- Direct labour hours worked 40,000
- Direct wages rate 60 per hour
- Production set-up 4,992
- Material and component consignments received from suppliers 1,500
- Number of quality inspection carried out 2,500

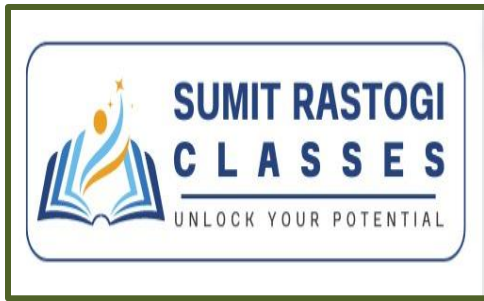
The data relating to two products manufactured by Garur Ltd. during the year are as under:

Particulars	P - 1	P - 2
Direct material costs (₹)	45,000	3,200
Direct labour hours	960	100
Direct material consignments received	48	52
Production runs	36	24
Number of quality inspections done	30	10
Quantity produced (units)	12,000	4,000

You are required:

- (i) Calculate the cost of product P-1 and P-2 based on the existing system of single overhead recovery rate.
- (ii) Determine the cost of product P-1 and P-2 using activity-based costing.

(7 Marks)



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5 (a) A firm can produce three different products from the same raw material using the same production facilities. The requisite labour is available in plenty at 8 per hour for all products. The supply of raw material, which is imported at ₹8 per kg. is limited to 10,400 kg. for the budget period. The variable overheads are ₹5.60 per hour. The fixed overheads are ₹50,000. The selling commission is 10% on sales.

From the following information, you are required to suggest the sales mix which will maximize the firm's profits. Also determine the profit that will be earned at the level:

Product	Market Demand (units)	Selling Price Per unit (₹)	Labour Hours Required per unit	Raw Material (Kg.) Required per unit
X	8,000	30	1	0.7
Y	6,000	40	2	0.4
Z	5,000	50	1.5	1.5

(7 Marks)

5 (b) A company manufactures an Engineering product utilizing 90% Capacity and produces 10800 units at a selling price of 500 per unit. The following per unit Cost data are given:

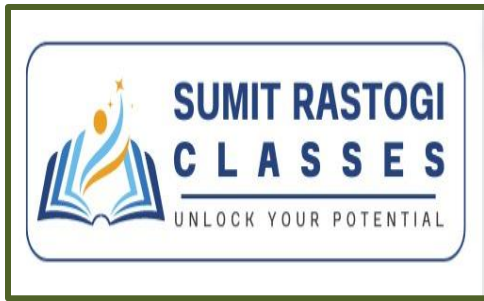
Particulars	₹
Raw Material	200
Direct Labour cost	60
Variable Overhead	40
Variable Factory Overhead	40

- Dealer's commission 20% on selling price
- Fixed Cost 5,50,000 per annum

The company was able to sell the entire products in the market to meet the demand of Local customers. Local market demand was for 10,800 units only. Now, one of the Dealers is willing to purchase additional 1200 units provided the selling price is reduced to 400 per unit and he is also willing to sacrifice 50% of his normal commission. Since the company has a balance capacity of 10%, Management has expressed willingness to consider the proposal. Fixed costs will remain unaltered.

Management wants your views about the proposals.

(7 Marks)



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6 (a) M.J. Ltd. manufactures 4 products, viz., A, B, C and D. The data relating to production activity are as under:

Product	Quantity (Units)	Material Cost Per Unit (₹)	Direct Labour Hours Per unit	Machine Hours Per Unit	Direct Labour Cost Per Unit
A	1,000	10	1	0.50	6
B	10,000	10	1	0.50	6
C	1,200	32	4	2	24
D	14,000	34	3	3	18

The Production overheads are as under:

Particulars	₹
Overhead applicable to machine-oriented activity	1,49,700
Overhead relating to ordering materials	7,680
Set-up costs	17,400
Administration overheads for spare parts	34,380
Material handling costs	30,294

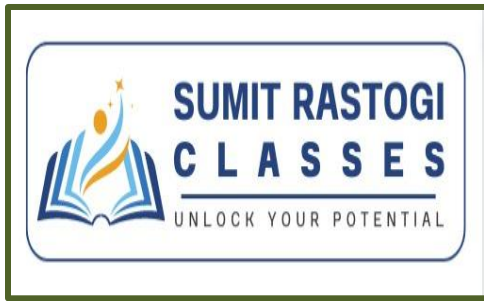
The following further information has been compiled:

Product	No. of set-up	No. of material orders	No. of times material handled	No. of spare parts
A	3	3	6	6
B	18	12	30	15
C	5	3	9	3
D	24	12	36	12

Required:

- Select a suitable cost driver for each item of overhead expense and calculate the cost per unit of cost driver.
- Using the concept of activity-based costing, compute the factory cost per unit of each product.

(7 Marks)



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6 (b) TRITONI LTD. produces 3 products A, B and C from the same manufacturing facilities. The cost and other details of the 3 products are as follows:

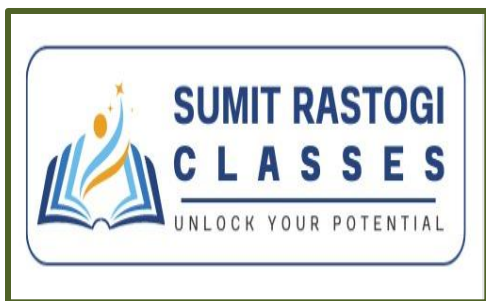
Particulars	A	B	C	Total
Sales Price per unit (₹)	200	160	100	
Variable Cost per unit (₹)	120	120	40	
Fixed Expenses per month				2,76,000
Maximum production per month (units)	5,000	8,000	6,000	
Total hours available for the month				200
Maximum Demand per month (Units)	2,000	4,000	2,400	

The processing hours cannot be increased beyond 200 hours per month.

You are required to:

- Compute the most profitable mix.
- Compute the overall break-even sales of the company for the month based on the mix calculated in (i) above.

(7 Marks)



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7 (a) A Drug Store of MONSI. Ltd., is presently selling three types of drugs namely 'Drug S', 'Drug T' and 'Drug Z'. It has provided the following data for year 2022-23 for each product line:

Particulars	Drugs Type		
	S	T	Z
Revenues (in ₹)	74,50,000	1,11,75,000	1,86,25,000
Cost of goods sold (in ₹)	41,44,500	68,16,750	1,20,63,750
Number of purchase orders placed (in Nos.)	560	810	630
Number of deliveries received (in Nos.)	950	1000	850
Hours of shelf-stocking time (in hours)	900	1250	2350
Units sold (in Nos.)	1,75,200	1,50,300	1,44,500

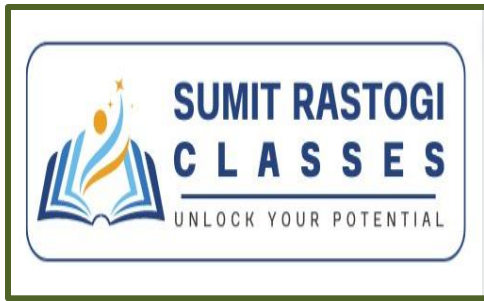
Following Additional information is also provided:

Activity	Description of Activity	Total Cost (₹)	Cost Allocation base
Drug License Fee	Drug License Fee	5,00,000	To be distributed in ratio 2:3:5 between S, T and Z.
Ordering	Placing orders for purchase	8,30,000	2,000 purchase orders
Delivery	Physical delivery and receipt of goods	18,20,000	2,800 deliveries
Shelf Stocking	Stocking of goods	32,40,000	4,500 hours of shelf-stocking time
Customer Support	Assistance provided to customers	28,20,000	4,70,000 units sold

You are required to calculate the operating income and operating income as a percentage (%) of revenue for each product line if:

- All the support costs (other than cost of goods sold) are allocated in the ratio of cost of goods sold.
- All the support costs (other than cost of goods sold) are allocated using Activity Based Costing System.

(7 Marks)



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7 (b) M/S VISUAL INFOTECH PVT. LIMITED is a multiple product manufacturer. One product line consists of CCTV Camera and the company manufactures three different models. M/s Visual Infotech Pvt. Limited is currently considering a proposal from a supplier who want to supply lenses of the CCTV Camera to M/s Visual Infotech Pvt. Limited.

M/s. Visual Infotech Pvt. Limited currently produce all the lenses it requires. In order to meet customer's needs, M/s Visual Infotech Pvt. Limited produces three different types of lenses for each CCTV Camera model (i.e. nine different lenses).

The supplier would charge ₹2,500 per lens, regardless of type of lens. For the next year, M/s Visual Infotech Pvt. Limited has projected the cost of its own production of lenses as follows (based on projected volume of 10,000 units):

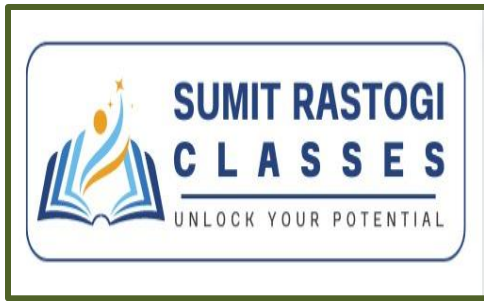
Particulars	Amount (₹)
Variable Cost:	
Direct Material	75,00,000
Direct Labour	65,00,000
Variable Overhead	55,00,000
Fixed Overhead:	
Factory Supervisors' Cost	35,00,000
Other Fixed Cost	65,00,000
Total Production Cost	2,95,00,000

Additional information:

- The equipment utilized to produce the lenses has no alternative use and no market value.
- The space occupied by the lens production unit will remain idle if the company purchases the lenses from outside market rather than produce in-house.
- Factory supervision cost is for salary of a Quality Manager & Production Supervisor who would be dismissed from the company if the company closes its lens production unit.

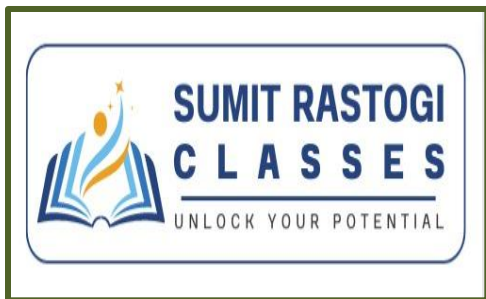
Required:

- Determine the net profit or loss of purchasing (rather than manufacturing) the lenses required for CCTV Camera.
- Determine the level of production where the company would be indifferent between buying and producing the lenses. If the future volume level is predicted to decrease, would that influence your decision?
- What would be your decision if the space presently occupied by lens production unit could be leased to another company at a lease rent of ₹ 25,00,000 per annum? (7 Marks)



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-
- 8 (a)** Write Short Note on Significance of Management Accounting. (4 Marks)
- 8 (b)** Outline the steps involved in Activity Based Costing. (5 Marks)
- 8 (c)** State the uses of Marginal Costing technique in decision making process. (5 Marks)

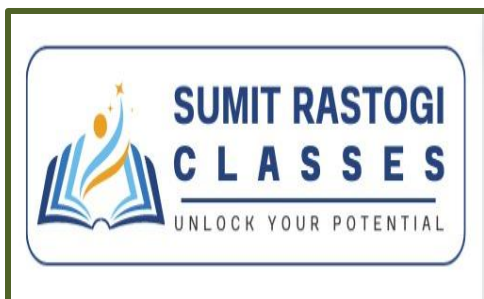


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SUGGESTED ANSWERS - TEST PAPER 03

SECTION - A

- (i) (B) Management accountants facilitate the decision-making process within an organization
- (ii) (C) Decision-Making
- (iii) (B) Classification and Collection of Costs
- (iv) (B) Management Accounting
- (v) (B) Management Accounting
- (vi) (B) Total quality cost
- (vii) (D) All of the above
- (viii) (A) Contribution per unit of a scarce resource used to make the product
- (ix) (B) Variable cost
- (x) (A) ₹20,000
- (xi) (B) Cost pool
- (xii) (A) Cost Driver
- (xiii) (C) Internal and external sources
- (xiv) (C) ₹ 500
- (xv) (A) True



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SECTION - B

Ans. 2 (a)

Statement of Comparative Profitability

Particulars	Capacity usage: 80% Domestic Sales – 80% Export Sales - NIL	Capacity usage: 100% Domestic Sales – 50% Export Sales – 50%	Capacity usage: 130% Domestic Sales – 80% Export Sales – 50%
Sales Domestic	48,00,000	30,00,000	48,00,000
Sales Export	-	27,00,000	27,00,000
Total Sales	48,00,000	57,00,000	75,00,000
Direct Materials	15,00,000	18,75,000	24,37,500
Direct labour	6,00,000	7,50,000	10,50,000
Variable Overheads	3,00,000	3,75,000	4,87,500
Total Variable Cost	24,00,000	30,00,000	39,75,000
Contribution	24,00,000	27,00,000	35,25,000
- Fixed Cost	19,00,000	19,00,000	20,50,000
Profit	5,00,000	8,00,000	14,75,000

Suggestion:

It reveals from the comparative analysis that Alternative-3 i.e. 80% capacity for domestic sales & 50% capacity for Export Sales is the best as it would give highest profits 14,75,000.

Working Notes:

- (a) Sales revenue at 100% capacity = $48,00,000/0.8$ = ₹60,00,000

Sales revenue at 50% capacity = $₹60,00,000 \times 0.5$ = ₹30,00,000

(b) Sales revenue at 50% capacity for export sales:
= $30,00,000 \times (1-0.10)$ = ₹27,00,000
- Direct Materials of 100% capacity: = $15,00,000/0.80$ = ₹18,75,000

At 130% capacity = $₹18,75,000 \times 1.30$ = ₹24,37,500
- Direct labour at 100% capacity: = $6,00,000/0.80$ = ₹7,50,000

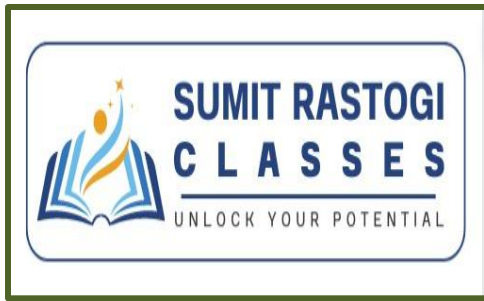
At 110% of capacity = $7,50,000 \times 1.10$ = ₹8,25,000

Balance 20% of capacity = $(6,00,000/0.80) \times 0.20 \times 1.50$ = ₹2,25,000

At 130% of Capacity = ₹10,50,000
- Variable overhead at 100% capacity: = $3,00,000/0.80$ = ₹3,75,000

At 130% of capacity = $3,75,000 \times 1.30$ = ₹4,87,500
- Fixed overhead Upto 100% capacity: = ₹19,00,000

At 130% of capacity = ₹19,00,000 + 1,50,000 = ₹20,50,000



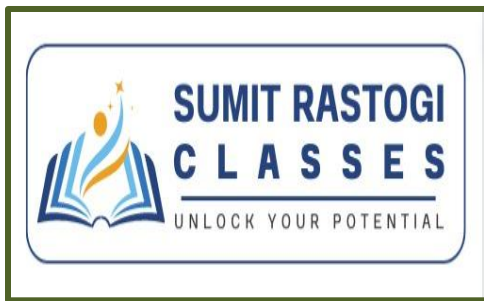
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Ans. 2(b)

Computation of profitability of the Proposal

Particulars	Amount (₹)
Sales (1,200 × 400)	4,80,000
- Total Variable Cost	
Raw Material (200 × 1,200)	2,40,000
Direct Labour (60 × 1,200)	72,000
Variable factory Overhead (40 × 1,200)	48,000
Dealer's Commission (10% × 4,80,000)	48,000
Contribution	24,000
- Fixed Cost (No increase in fixed cost)	-
Profit	24,000

Recommendation: Since, the proposal gives additional profit ₹24,000 the same should be accepted.



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Ans. 3(a)

**STATEMENT SHOWING TOTAL COST OF DIFFERENT PRODUCTS ASSUMING
 ABSORPTION OF OVERHEAD ON A MACHINE HOUR RATE BASIS**

Particulars	A	B	C	D	Total
Output (units)	120	100	80	120	420
Direct Material	40	50	30	60	180
Direct Labour	28	21	14	21	84
Overheads @₹40 per machine hour	160	120	80	120	480
Total Cost per unit	228	191	124	201	
Total Cost	27,360	19,100	9,920	24,120	80,500

Overhead Rate = $52,000/1,300 = ₹40$ per Machine hour

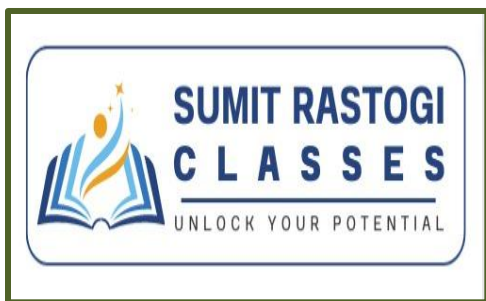
[Total Machine hours = $(120 \times 4 + 100 \times 3 + 80 \times 2 + 120 \times 3) = 1,300$]

**STATEMENT SHOWING CALCULATION OF OVERHEAD RATE PER UNIT OF
 COST DRIVER**

Total Overheads	₹	Drivers	No.	Cost per unit of Driver
Factory Work expenses	20,860	Machine hours	1,300	$20,860/1,300 = 16.05$
Set up costs	10,500	Production runs	21	$10,500/21 = 500$
Stores receiving	7,200	Requisitions	80	$7,200/80 = 90$
Inspection/Quality control	4,200	Production runs	21	$4,200/21 = 200$
Material handling & dispatch	9,240	Orders	42	$9,240/42 = 220$
Total Cost	52,000			

No. of production runs = No. of units/batch size of run = $420/20 = 21$

(No. of production runs for each product have been computed similarly)



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**STATEMENT SHOWING TOTAL COST OF EACH PRODUCT ASSUMING
ACTIVITY BASED COSTING**

Particulars	A	B	C	D
Output (units)	120	100	80	120
Direct Material	40.00	50.00	30.00	60.00
Direct Labour	28.00	21.00	14.00	21.00
Factory Expenses @₹16.05 Per M. Hour	64.18	48.14	32.09	48.14
Set-Up Costs @₹500 Per Production Run	25.00	25.00	25.00	25.00
Stores Receiving @₹90 Per Requisitions	15.00	18.00	22.50	15.00
Inspection @₹500 Per Production Run	10.00	10.00	10.00	10.00
Material Handling @₹220 Per Order	22.00	22.00	22.00	22.00
Total Cost Per Unit	204.18	194.14	155.59	201.14
Total Cost	24,501.60	19,414.00	12,447.20	21,136.80

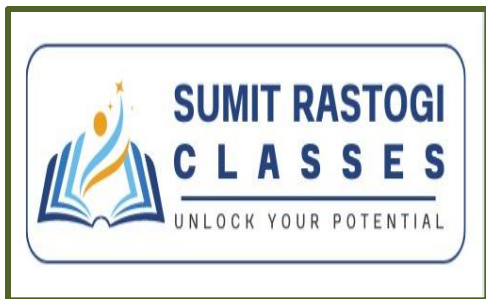
Overhead per unit of product in case of ABC costing

= Cost per unit of cost driver × No. of units of cost driver for the product/No. of units of product

STATEMENT SHOWING DIFFERENCES

Particulars	A	B	C	D
Total Cost (Machine hour rate)	27,360.00	19,100.00	9,920.00	24,120.00
Total Cost (ABC Costing)	24,501.60	19,414.00	12,447.20	21,136.80
Difference	2,858.40	(314.00)	(2,527.20)	(16.80)

Comments: Comparison of the ABC cost with the original traditionally calculated cost reveals that product-A was significantly over costed by the traditional system relative to the ABC system, whilst product B, product C and product D were seriously under costed. Product A consumes comparatively more of machine hours than other three products, This, result is therefore to be expected. ABC reflects reality in its allocation of production overhead costs to the product. The traditional approach allocated all production overhead costs to products as if the overheads were driven by unit level activities i.e. the number of direct labour hours worked. In the light of above criteria, it may be commented that ABC gives a better insight into the cost of producing the products than traditional cost.



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Ans. 3(b)

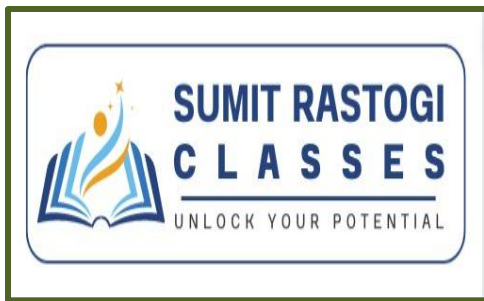
MARGINAL COST STATEMENT DURING RECESSION

Particulars	Amount (₹)
Sales (5000 × 100)	5,00,000
Less: Total Variable Costs	
Direct Materials (5000 × 32)	1,60,000
Direct Labour (5000 × 12)	60,000
Variable overheads [5000 × (16+5)]	1,05,000
Contribution	1,75,000
Less: Fixed Cost	15,00,000
Loss	(13,25,000)

STATEMENT OF SHUT DOWN COST

Particulars	Amount (₹)
Fixed Cost	15,00,000
Less: Avoidable Costs	4,00,000
Add: Committed Unavoidable Costs (Additional)	2,95,000
Shut down cost	13,95,000

Advice: It is apparent that the shutdown costs is higher than Loss (₹13,95,000 - ₹13,25,000) = ₹70,000. So, it is not justified to shut down.



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Ans. 4(a)

PROFIT & LOSS STATEMENT AT PRESENT

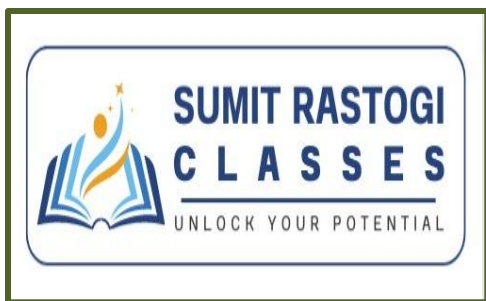
Particulars	Amount (₹)			
	X	Y	Z	Total
Sales	22,40,000	11,20,000	16,80,000	50,40,000
- Total Variable Costs				
Direct Materials	2,80,000	1,40,000	2,80,000	7,00,000
Direct Labour	1,12,000	1,40,000	4,48,000	7,00,000
Direct expenses	2,80,000	1,40,000	5,60,000	9,80,000
Contribution	15,68,000	7,00,000	3,92,000	26,60,000
- Fixed Cost				14,00,000
Profit				12,60,000

STATEMENT OF PROFIT & LOSS IF DEPARTMENT Z IS SHUT DOWN

Particulars	Amount (₹)		
	X	Y	Total
Sales	22,40,000	11,20,000	33,60,000
- Total Variable Costs			
Direct Materials	2,80,000	1,40,000	4,00,000
Direct Labour	1,12,000	1,40,000	2,52,000
Direct Expenses	2,80,000	1,40,000	4,20,000
Contribution	15,68,000	7,00,000	22,68,000
- Fixed Cost			12,50,000
Profit			10,18,000

Advice:

From the comparative profitability statements stated supra, it is clear that profit is decreased by ₹2,42,000 that is (₹12,60,000 – ₹10,18,000) by closing down Department 'Z'. Therefore, it should not be closed down.



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Ans. 4(b)

STATEMENTS SHOWING TOTAL COST OF DIFFERENT PRODUCTS ASSUMING ABSORPTION OF OVERHEAD ON A LABOUR HOUR RATE BASIS

Particulars	P-1	P-2
Output (units)	12,000	4,000
Direct Material	45,000	3,200
Direct Labour @₹60 per hour	57,600	6,000
Overheads @₹105 per hour	1,00,800	10,500
Total Cost	2,03,400	19,700
Total Cost per unit (₹)	16.95	4.925

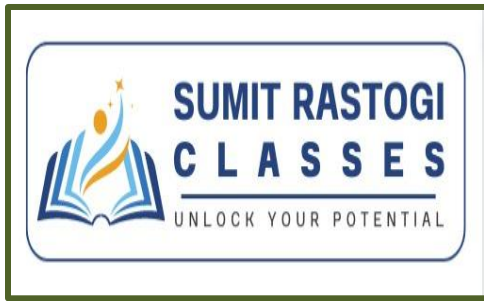
Overhead rate = 42,00,000/40,000 = ₹105 per labour hour

STATEMENT OF APPORTIONMENT OF OVERHEADS TO ACTIVITY

Overheads	Total Expenses (₹)	Stores (₹)	Production (₹)	Quality Inspection (₹)
Machine operation	20,25,000	6,07,500	14,17,500	-
Machine Maintenance	3,75,000	1,12,500	2,62,500	-
Salaries of technical staff	12,75,000	76,500	8,16,000	3,82,500
Wages and salaries of stores staff	5,25,000	5,25,000	-	-
Total Cost	42,00,000	13,21,500	24,96,000	3,82,500

STATEMENT SHOWING CALCULATION OF OVERHEAD RATE PER UNIT OF COST DRIVER

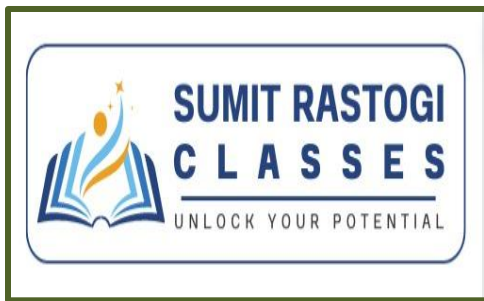
Total Overheads	₹	Drivers	No.	Cost per unit of Driver	
Stores	13,21,500	Material and components received	1,500	13,21,000/1,500	881
Production	24,96,000	Production Set-ups	4,992	24,96,000/4,992	500
Quality Inspection	3,82,500	No. of Inspection	2,500	3,82,500/2,500	153
Total Cost	42,00,000				



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**STATEMENT SHOWING TOTAL COST OF EACH PRODUCT
 ASSUMING ACTIVITY-BASED COSTING**

Particulars	A	B
Output (units)	12,000	4,000
Direct Material	45,000	3,200
Direct Labour @₹60 per hour	57,600	6,000
Stores @₹881 per component received	42,288	45,812
Production @₹500 per production set-up	18,000	12,000
Quality Inspection @₹153 per inspection	4,590	1,530
Total Cost	1,67,478	68,542
Total cost per unit	13.96	17.14



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Ans. 5 (a)

MARGINAL PROFITABILITY STATEMENT

Particulars	Production		
	X (₹)	Y (₹)	Z (₹)
Selling Price Per Unit	30.00	40.00	50.00
- Direct Material	5.60	3.20	12.00
- Direct Labour	8.00	16.00	12.00
- Variable Production Overheads	5.60	11.20	8.40
- Variable Selling Overheads	3.00	4.00	5.00
Contribution Per Unit	7.80	5.60	12.60
Raw Material Required (Kg.)	0.7	0.4	1.5
Contribution per kg of Raw Material (Contribution per unit/Kg.)	11.14	14.00	8.40
Ranking	2	1	3

Calculation of production:

Available raw material (kg) 10,400
 Production of Y (6,000 × 0.4) (2,400)

Production of X (8,000 × 0.7) (5,600)

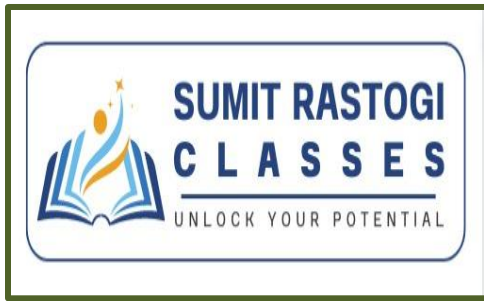
Production of Z (Balance) 2,400

Units of Z = 2,400/1.5 = 1,600 units

Calculation of Maximum Profit:

Total Contribution = (8,000 × 7.80) + (6,000 × 5.60) + (1,600 × 12.60)
 = 62,400 + 33,600 + 20,160 = ₹1,16,160

Maximum Profit = 1,16,160 – 50,000 = ₹66,160



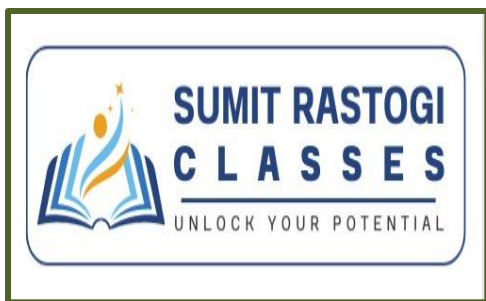
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Ans. 5 (b)

COMPUTATION OF PROFITABILITY OF THE PROPOSAL

Particulars	Amount (₹)
Sales (1,200 × 400)	4,80,000
Less: Total Variable Cost	
Raw Material (200 × 1,200)	2,40,000
Direct Labour (60 × 1,200)	72,000
Variable Overhead (40 × 1,200)	48,000
Variable factory Overhead (40 × 1,200)	48,000
Dealer's Commission (10% × 4,80,000)	48,000
Contribution	24,000
Less: Fixed Cost (No increase in fixed cost)	-
Profit	24,000

Recommendation: Since, the proposal gives additional profit ₹24,000 the same should be accepted.



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Ans. 6 (a)

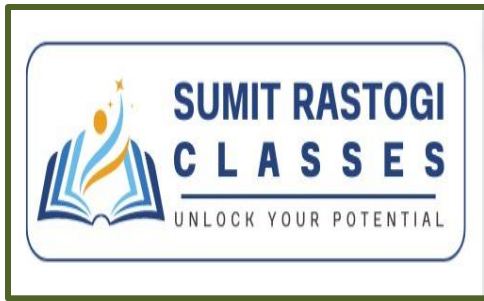
STATEMENT SHOWING CALCULATION OF OVERHEAD RATE PER UNIT OF COST DRIVER

Total Overheads	₹	Drivers	No.	Cost per unit of Drivers	
Overheads applicable to machine-oriented activity	1,49,700	Machine hours	49,900	1,49,700/49,900	3
Overheads relating to ordering materials	7,680	No. of material orders	30	7,680/30	256
Set-up costs	17,400	No. of Set-ups	50	17,400/50	384
Administration overheads for spare parts	34,380	No. of spare parts	36	17,400/50	955
Material handling costs	30,294	No. of times material handled	81	30,294/81	374
Total Cost	2,39,454				

$$\text{Machine Hours} = (1,000 \times 0.5) + (10,000 \times 0.50) + (1,200 \times 2) + (14,000 \times 3) = 49,900$$

STATEMENT SHOWING TOTAL COST OF EACH PRODUCT ASSUMING ACTIVITY-BASED COSTING

Particulars	A (₹)	B (₹)	C (₹)	D (₹)
Output (units)	1,000	10,000	1,200	14,000
Direct Material	10.00	10.00	32.00	34.00
Direct Labour	6.00	6.00	24.00	18.00
Overheads applicable to machine-oriented activity	1.50	1.50	6	9
Overheads relating to ordering materials	0.768	0.31	0.64	0.22
Set-up costs	1.044	0.63	1.45	0.60
Administration overheads for spare parts	5.730	1.43	2.39	0.82
Material handling costs	2.244	1.12	2.81	0.96
Factory Cost Per Unit	27.29	20.99	69.29	63.60



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Ans. 6 (b)

Marginal Profitability Statement

Particulars	Production		
	A (₹)	B (₹)	C (₹)
Selling Price per unit	200	160	100
- Variable Cost per unit	120	120	40
Contribution per unit	80	40	60
Hours per unit	0.04	0.025	0.0333
Contribution per hour (Contribution per unit/Hours per unit)	2,000	1,600	1,800
Ranking	2	3	1

Calculation of hours per unit:

Maximum Hours/Maximum Production

A = $200/5,000 = 0.04$ hours

B = $200/8,000 = 0.025$ hours

C = $200/6,000 = 0.0333$ hours

(i) Calculation of most profitable mix:

Available hours 200
 Production of C ($2,400 \times 0.0333$) (80)
 Production of A (2000×0.04) (80)
 Production of B (Balance) 40

Units of A $40/0.025 = 1,600$ units

Calculation of Maximum Profit:

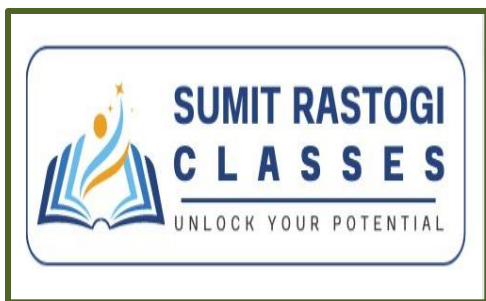
Total Contribution = $(2,000 \times 80) + (1,600 \times 40) + (2,400 \times 60)$
 $= 1,60,000 + 64,000 + 1,44,000 = 3,68,000$

Maximum Profit = $3,68,000 - 2,76,000 = ₹92,000$

(ii) Overall sales = $(2,000 \times 200) + (1,600 \times 160) + (2,400 \times 100)$
 $= 4,00,000 + 2,56,000 + 2,40,000 = ₹8,96,000$

PV Ratio = $3,68,000 \times 100/8,96,000 = 41.0714\%$

BEP Sales (₹) = $\text{Fixed Cost}/\text{PV ratio} = 2,76,000/41.0714\% = ₹6,72,000$



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Ans. 7 (a)

Statements showing Operating Income of different drugs if All support costs are allocated
in the ratio of cost of goods sold

Particulars	S	T	Z
Revenue	74,50,000	1,11,75,000	1,86,25,000
Cost of Goods Sold	(41,44,500)	(68,16,750)	(1,20,63,750)
Support Costs (In ratio of COGS)	(16,57,800)	(27,26,700)	(48,25,500)
Operating Income	16,47,700	16,31,550	17,35,750
Operating Income as % of revenue	22.12%	14.60%	9.32%

Total Support Costs = 5,00,000 + 8,30,000 + 18,20,000 + 32,40,000 + 28,20,000 = ₹92,10,000

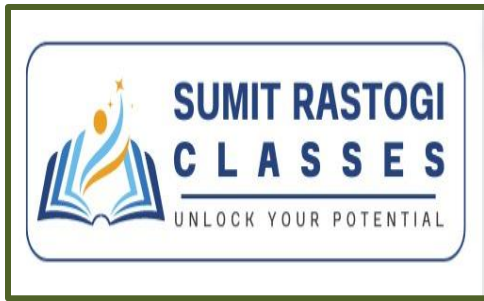
Statements showing Operating Income of different drugs if All support costs are allocated
using Activity Based Costing

Particulars	S	T	Z
Revenue	74,50,000	1,11,75,000	1,86,25,000
Cost of Goods Sold	(41,44,500)	(68,16,750)	(1,20,63,750)
Support Costs:			
Drug License Fees (2:3:5)	(1,00,000)	(1,50,000)	(2,50,000)
Ordering Cost @₹415 per order	(2,32,400)	(3,36,150)	(2,61,450)
Delivery Cost @₹650 per delivery	(6,17,500)	(6,50,000)	(5,52,500)
Shelf stocking @₹720 per Shelf-Stocking	(6,48,000)	(9,00,000)	(16,92,000)
Customer Support @₹6 per unit sold	(10,51,200)	(9,01,800)	(8,67,000)
Operating Income	6,56,400	14,20,300	29,38,300
Operating Income as % of revenue	8.81%	12.71	15.78%

Working Notes:

Statement Showing calculation of overhead rate per unit of cost driver

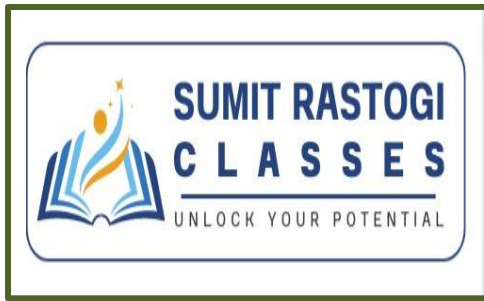
Support Costs	₹	Drivers	No.	Cost per unit of Drivers	
Ordering	8,30,000	No. of purchase order	2,000	8,30,000/2,000	415
Delivery	18,20,000	No. of Deliveries	2,800	18,20,000/2,800	650
Shelf Stocking	32,40,000	Hours of Shelf-Stocking	4,500	32,40,000/4,500	720
Customer Support	28,20,000	Units Sold	4,70,000	28,20,000/4,70,000	6
Total Cost	87,10,000				



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Ans. 7 (b)

- (i) Total Cost of Manufacturing the lenses = $75,00,000 + 65,00,000 + 55,00,000 + 35,00,000 = ₹2,30,00,000$
Other Fixed Costs are irrelevant as they will remain same even if lenses are purchases from outside.
Cost of Purchasing = $2,500 \times 10,000 = ₹250,00,000$
Net Profit/(Loss) due to purchasing = $2,30,00,000 - 2,50,00,000 = ₹(20,00,000)$
Decision: Manufacturing is better.
- (ii) Variable Cost per unit for manufacturing = $1,95,00,000 / 10,000 = ₹1,950$
Indifference Point (Units) = Difference in Fixed Cost / Difference in Variable Cost per unit = $(35,00,000 - 0) / (2,500 - 1,950) = 6,364 \text{ units (Approx.)}$
If the Production is predicted to decrease below the Indifference point than purchasing would be better option.
- (iii) **If Space used for manufacturing lenses can be leased out than:**
Total manufacturing cost considering Opportunity cost of rent shall be
 $= 2,30,00,000 + 25,00,000 = ₹2,55,00,000.$
While, purchasing cost shall remain same at 2,50,00,000
Net Profit/(Loss) due to purchasing = $2,55,00,000 - 2,50,00,000 = ₹5,00,000.$
Decision: Purchasing is better.



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ANS. 8 (a) SIGNIFICANCE OF MANAGEMENT ACCOUNTING

1. **Delegation of Authority:** Now a day the function of management is no longer personal. Management accounting helps the organization in proper delegation of authority for the attainment of the vision and mission of the business.
2. **Need of the Management:** Management Accounting plays the role in meeting the need of the management.
3. **Qualitative information:** Management Accounting accumulates the qualitative information so that management would concentrate on the actual issue to deliberate and attain the specific conclusion even for the complex problem.
4. **Objective of-the Business:** Management Accounting provides measure and reports to the management thereby facilitating in attainment of the objective of the business.

Ans. 8 (b) OUTLINE OF THE STEPS INVOLVED IN ABC SYSTEM

1. To study the manufacturing process and various stages involved in the product or service to identify the activities involved.
2. To the resources and cost of each activity.
3. Tracing each cost with the cost objects.
4. Ascertaining the cost driver rate of each activity considering the cost of such activity and the related cost driver.
5. Applying the cost driver rates to the product.

Ans. 8 (c) USES OF MARGINAL COSTING IN DECISION MAKING

Marginal costing is an important technique of costing. Cost - Volume - Profit helps to determine the effect of change of volume on profit under the assumption of a linear cost process relationship. Marginal costing technique helps in forecasting short term decision e.g.

1. Fixation of selling price
2. Diversification of products
3. Problems on limiting factors
4. Selection of profitable mix
5. Make or buy
6. Alternative method of manufacture
7. Exploring new market
8. Shutting down or suspending activities.