

**UDHNA CITIZEN COMMERCE COLLEGE &
S.P.B. COLLEGE OF BUSINESS ADMINISTRATION &
SMT. DIWALIBEN HARJIBHAI GONDALIA COLLEGE OF BCA & IT**

Class: M.Com. (Sem. 3)

Subject: Financial & Management Account Paper 9

ACTIVITY BASED COSTING QUESTIONS

Q.1

A company manufactures three products namely A,B and C in a factory. The following cost data for the month of March, 2023 are as under:

Activity	A	B	C
Unit Produced	10000	15000	20000
Direct labour hour per unit	3	4.5	4
Machine hour per unit	6	4	5
Set-ups of machines	20	25	30
Number of orders	15	12	10

Common Cost:

Machine operating cost Rs.440,000

Machine set-up cost Rs.75000

Order processing cost Rs. 111000

Allocate common cost between various activities using Activity Based Costing Method.

Q.2

The Information regarding two products of Swel Ltd are as follows:

Activity	Cost Driver	Capacity	Cost Rs.
Power	Kilowatt hours	75,000 Kilowatt hours	3,00,000
Quality Inspections	Number of Inspection	15,000 Inspections	4,50,000

The company makes three products X, Y and Z. For the year ended March 31, 2020, the following consumption of cost drivers was reported:

Product	Kilowatt hours	Quality Inspections
X	15,000	5,250
Y	30,000	3,750
Z	22,500	4,500

Compute the costs allocated to each product from each activity. Moreover, calculate the cost of unused capacity for each activity.

Q.3

A company manufacturing two products furnishes the following data for a year. Actual outputs of both the products are 5,000 units and 60,000 units respectively.

Product	Machine Hour (per unit)	Labour Hour (per unit)
A	4	2
B	2	1

The annual overheads are as under:

Volume related activity costs	Rs. 5,50,000
Setup related costs	Rs. 8,20,000
Purchase related costs	Rs. 6,18,000

Find out per unit absorption rate of overheads in following circumstances:

- If overheads are based on Machine Hours
- If overheads are based on Labour Hours

Q.4

Silverstone Ltd. is a manufacturer of a range of goods. The cost structure of its different products is as follows:

Particulars	Product A (Per unit Rs.)	Product B (Per unit Rs.)	Product C (Per unit Rs.)
Direct materials	50	40	40
Direct labour @ 10Rs./hour	30	40	50
Production overhead	30	40	50
Total cost	110	120	140

	Product A	Product B	Product C
Quantity produced (units)	10000	20000	30000

Silverstone Ltd. Was absorbing overheads on the basis of direct labour hours. A newly appointed management accountant has suggested that the company should introduce ABC system and has identified cost drivers and cost pools as follows:

Activity cost Pool	Cost Driver	Associated Cost
Stores Receiving	Purchase Requisitions	296000
Inspection	Number of Production runs	894000
Dispatch	Orders executed	210000
Machine setup	Number of setups	1200000

The following information is also supplied:

	<table><tr><th>Details</th><th>Product A</th><th>Product B</th><th>Product C</th></tr><tr><td>No. of setups</td><td>360</td><td>390</td><td>450</td></tr><tr><td>No. of orders executed</td><td>180</td><td>270</td><td>300</td></tr><tr><td>No. of Production runs</td><td>750</td><td>1050</td><td>1200</td></tr><tr><td>No. of purchase requisition</td><td>300</td><td>450</td><td>500</td></tr></table> You are required to calculate total cost of all the three products using ABC. (March 2023)	Details	Product A	Product B	Product C	No. of setups	360	390	450	No. of orders executed	180	270	300	No. of Production runs	750	1050	1200	No. of purchase requisition	300	450	500														
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Q.5	ABC Ltd. manufactures two types of machinery equipments Y and Z. Company absorbs overheads on the basis of direct labour hours. The budgeted overheads and direct labour hours for the month of December, 2019 are Rs. 12,42,500 and 20,000 hours respectively. The information about Company's products is as follows: <table><tr><th>Particulars</th><th>Equipment - Y</th><th>Equipment - Z</th></tr><tr><td>Budgeted production volume</td><td>2,500 units</td><td>3,125 units</td></tr><tr><td>Direct Material cost</td><td>Rs. 300 p.u.</td><td>Rs. 450 p.u.</td></tr><tr><td>Direct Labour cost:</td><td></td><td></td></tr><tr><td> Y (3 hours @ Rs.150 p.h.)</td><td>Rs. 450</td><td>-</td></tr><tr><td> Z (4 hours @ Rs.150 p.h.)</td><td>-</td><td>Rs. 600</td></tr></table> ABC Ltd.'s overheads of Rs. 12, 42,500 can be identified with three major activities: Order processing Rs. 2, 10,000, machine processing Rs. 8, 75,000, and product inspection Rs. 1, 57,500. These activities are driven by number of orders processed, machine hours worked and inspection hours, respectively. The data relevant to these activities is as follows: <table><tr><th>Product</th><th>Order processed</th><th>Machine hours worked</th><th>Inspection hours</th></tr><tr><td>Y</td><td>350</td><td>23,000</td><td>4,000</td></tr><tr><td>Z</td><td>250</td><td>27,000</td><td>11,000</td></tr><tr><td>Total</td><td>600</td><td>50,000</td><td>15,000</td></tr></table> Required: 1. Compute the unit manufacturing cost of the equipments Y and Z, assuming use of direct labour hours to absorb overheads to production. Compute the unit manufacturing cost of the equipments Y and Z, assuming use of Activity Based Costing.	Particulars	Equipment - Y	Equipment - Z	Budgeted production volume	2,500 units	3,125 units	Direct Material cost	Rs. 300 p.u.	Rs. 450 p.u.	Direct Labour cost:			Y (3 hours @ Rs.150 p.h.)	Rs. 450	-	Z (4 hours @ Rs.150 p.h.)	-	Rs. 600	Product	Order processed	Machine hours worked	Inspection hours	Y	350	23,000	4,000	Z	250	27,000	11,000	Total	600	50,000	15,000
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Q.6	A company manufacturing two products furnishes the following data for a year. Actual outputs of both the products are 10,000 units and 1, 20,000 units respectively. <table><tr><th>Product</th><th>Per unit Machine Hours</th><th>Total number of purchase orders</th><th>Total number of setup</th><th>Direct Material (per unit Rs.)</th><th>Direct Labour (per unit Rs.)</th></tr><tr><td>A</td><td>4</td><td>320</td><td>40</td><td>6</td><td>4</td></tr><tr><td>B</td><td>2</td><td>768</td><td>88</td><td>3</td><td>2</td></tr></table> The annual overheads are as under: <table><tr><td>Volume related activity costs</td><td>Rs. 11,00,000</td></tr><tr><td>Setup related costs</td><td>Rs. 16,40,000</td></tr><tr><td>Purchase related costs</td><td>Rs. 12,36,000</td></tr></table> You are required to calculate the total as well as per unit cost of each Product based on:	Product	Per unit Machine Hours	Total number of purchase orders	Total number of setup	Direct Material (per unit Rs.)	Direct Labour (per unit Rs.)	A	4	320	40	6	4	B	2	768	88	3	2	Volume related activity costs	Rs. 11,00,000	Setup related costs	Rs. 16,40,000	Purchase related costs	Rs. 12,36,000										
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	i. Traditional method of charging overheads ii. Activity Based Costing method																																						
Q.7	The budgeted overheads and cost driver volumes of Silverstone Ltd. are as follows : <table><tr><th>Cost Pool</th><th>Budgeted Overheads(Rs.)</th><th>Cost Driver</th><th>Budgeted Volume</th></tr><tr><td>Material Procurement</td><td>290,000</td><td>No. of orders</td><td>550</td></tr><tr><td>Material handling</td><td>125,000</td><td>No. of movements</td><td>340</td></tr><tr><td>Set-up</td><td>207,500</td><td>No. of set-ups</td><td>260</td></tr><tr><td>Maintenance</td><td>485,000</td><td>Maintenance Hours</td><td>4200</td></tr><tr><td>Quality Control</td><td>88,000</td><td>No. of inspection</td><td>450</td></tr><tr><td>Machinery</td><td>360,000</td><td>No. of machine hours</td><td>12000</td></tr></table> The firm has produced a batch of 2,600 components of AXL-5, its Material cost was Rs.1,30,000 and Labour cost Rs.2,45,000. The usage activities of the said batch are as follows: Material Orders — 26 Maintenance hours — 690 Material Movements — 18 Inspection — 28 Set-ups — 25 Machine hours — 1,800 Required : (i) Calculate Cost driver rates (ii) Ascertain the total cost of batch of components using Activity Based Costing.	Cost Pool	Budgeted Overheads(Rs.)	Cost Driver	Budgeted Volume	Material Procurement	290,000	No. of orders	550	Material handling	125,000	No. of movements	340	Set-up	207,500	No. of set-ups	260	Maintenance	485,000	Maintenance Hours	4200	Quality Control	88,000	No. of inspection	450	Machinery	360,000	No. of machine hours	12000										
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Q.8	Udhna Co. Ltd produces 3 products A, B and C. The company follows Activity Based Costing system. Information related to various costs of these products for the last year: <table><tr><td>Particulars</td><td>A</td><td>B</td><td>C</td></tr><tr><td>Production and Sales (Units)</td><td>15000</td><td>12000</td><td>18000</td></tr><tr><td>Selling Price p.u. (Rs.)</td><td>7.5</td><td>12</td><td>13</td></tr><tr><td>Raw Material Usage (kg) p.u.</td><td>2</td><td>3</td><td>4</td></tr><tr><td>Direct labour hours p.u.</td><td>0.1</td><td>0.15</td><td>0.2</td></tr><tr><td>Machine Hours p.u.</td><td>0.5</td><td>0.7</td><td>0.9</td></tr><tr><td>No. of Production runs p.a.</td><td>16</td><td>12</td><td>8</td></tr><tr><td>No. of purchase orders p.a.</td><td>24</td><td>28</td><td>42</td></tr><tr><td>No. of deliveries to retailers p.a.</td><td>48</td><td>60</td><td>32</td></tr></table> The price of Raw materials remained constant throughout the year at Rs.1.2 per kg and the labour cost was Rs.14.8 per hour. The annual Overhead costs are as follows: <table><tr><td>Overheads</td><td>Rs</td></tr></table>	Particulars	A	B	C	Production and Sales (Units)	15000	12000	18000	Selling Price p.u. (Rs.)	7.5	12	13	Raw Material Usage (kg) p.u.	2	3	4	Direct labour hours p.u.	0.1	0.15	0.2	Machine Hours p.u.	0.5	0.7	0.9	No. of Production runs p.a.	16	12	8	No. of purchase orders p.a.	24	28	42	No. of deliveries to retailers p.a.	48	60	32	Overheads	Rs
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		Machine set up costs	26550
		Machine running costs	66400
		Procurement Costs	48000
		Delivery costs	54320
	Overheads costs of production are based on labour hours.		
	Calculate :		
	1. Per unit cost as per Traditional Method		
	2. Per unit cost as per Activity Based Costing		