New chapter = Activity Based Costing

Part - 1

Theory + Practical

[First we done this]

Part - 2

Only Theory

[After Completion of part-1 we done this]

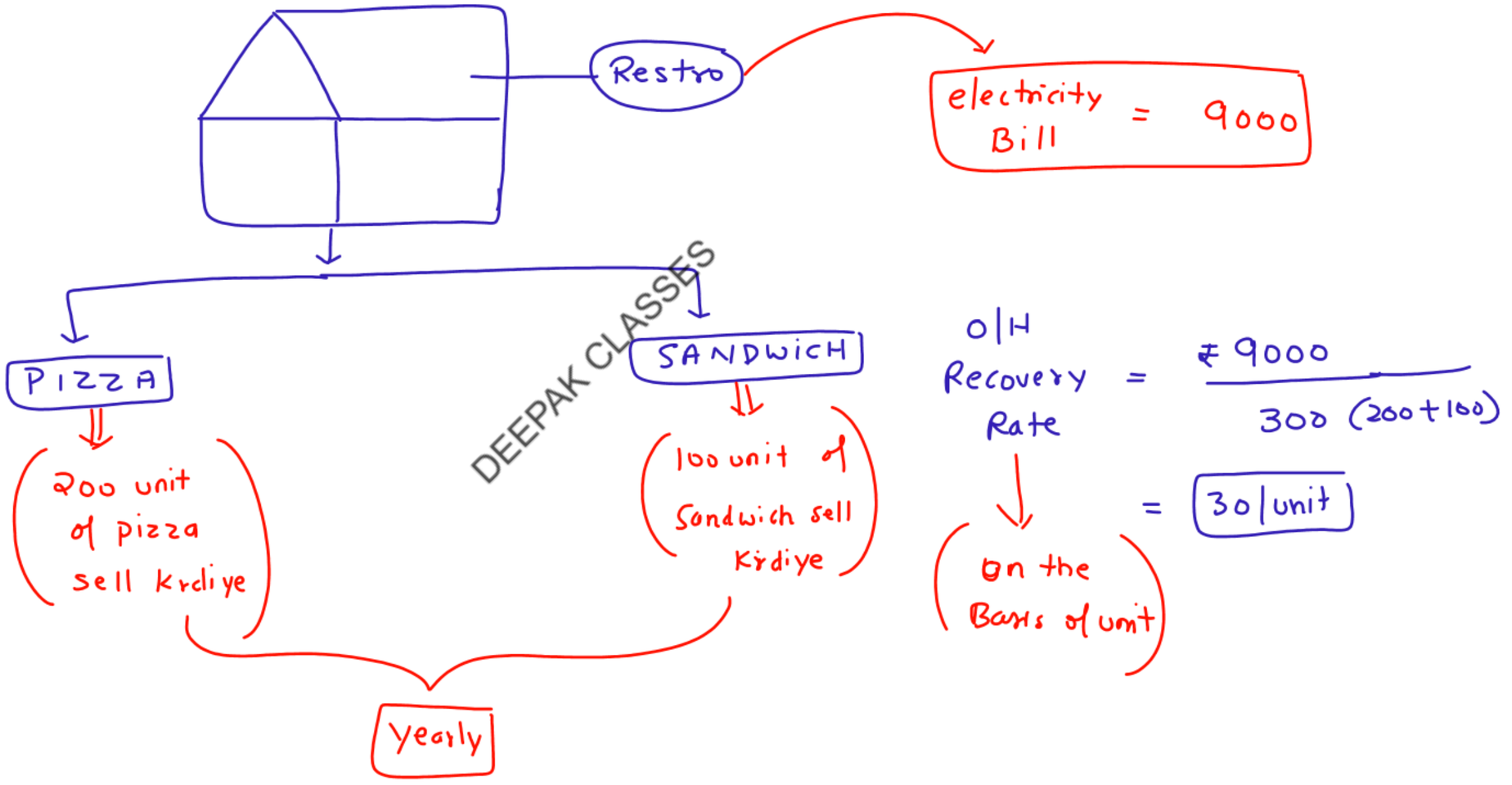
Part - 1 (Theory + Praetical)

Topic to be Cover

1. Traditional Cost System (Done)
2. Meaning of overhead (Done)
3. Allocation of overhead (Done)
4. Meaning of Activity Based Costing (Done)
5. Cost object (Done)
6. Cost pool (Done)
7. Cost driver (Done)
8. illustration & Question

Explaination of Concept with the help of Example

Traditional Cost System



Concept of Activity Based Costing

Pizza = 200 unit → (3 khw electricity lagti hai) → Electricity Consumption ↑

Sandwish = 100 unit → (1 khw electricity lagti hai) → Electricity Consumption ↓

300 unit

electricity Cost = 9000

Per unit electricity Cost = 9000 / 300

= ₹ 30/unit

(Traditional Method)

(Chahe aap Pizza Banao Chahe Sandwich, ek unit Banane Par 30 ki Bijli Consume hoti hai)

(Yhe galt hai Activity Based Costing ke hisab se)

ABC Hame Batata hai electricity Cost ka Burden jayad Pizza par dena chaiye as Compare to Sandwish. Equal Burden Nhi Dena chaiye yhe galt approch hai ABC ke hisab se

[Cost Allocation on Activity to Activity Basis]

Q1 O/H Recovery Rate under different Method [Traditional Method]

Total O/H Cost = 62,100

① Rate per unit Produce = $\frac{\text{Total O/H Cost}}{\text{Total unit}}$

$= \frac{₹62\,100}{13\,800 \text{ unit}}$

$= ₹4.5 \mid \text{unit}$

Har unit ko sell krne par ₹4.5 har unit par charge karke Customer se Recover kiya jayega. Aur is tarike se Jab Hum 13,800 unit sell krdenge toh Hum apni total O/H Cost Recover kr chuke hogne (62,100)

② D. labour Hour Rate = $\frac{62,100}{27000} = ₹2.3 \mid \text{Hour}$ (labour)

③ Machine Hour Rate = $\frac{62,100}{34\,500} = 1.8 \mid \text{Hour}$ (machine)

④ Direct wage Cost = $\frac{62,100}{17\,250} \times 100 = 360\%$

⑤ Direct Material Cost = $\frac{62,100}{49,680} \times 100 = 125\%$

⑥ Prime Cost = $\frac{62,100}{66,930} \times 100 = 92.78\%$

Q2

Traditional Cost System (O/H Recovery Rate)

Particular	Product A	Product B
Annual output	10,000 unit	20,000 unit
Total Machine Hour	20,000 Hr	10,000 Hr
Machinery Hour Rate = $\frac{300,000}{30,000}$ = 10 | Hour		
Total O/H Cost on the Basis of Machine Hour [Machine Hour × Machin Hr Rate]	200,000	100,000
Overhed Cost /unit $\left[\frac{\text{Total O/H}}{\text{Total unit}}\right]$	20/unit	5/unit

Meaning of Activity Based Costing

① Activity Based Costing is an effective Costing System that focus on activity.

② ABC is refined Costing System, or a more specific way to assign cost to cost object

④ This System avoid using a splitting a Cost evenly between division Instead it allocates Indirect Cost/overhead to the activites that generate those Cost.

⑤ The Result is likely to be more accurate Costing and product pricing

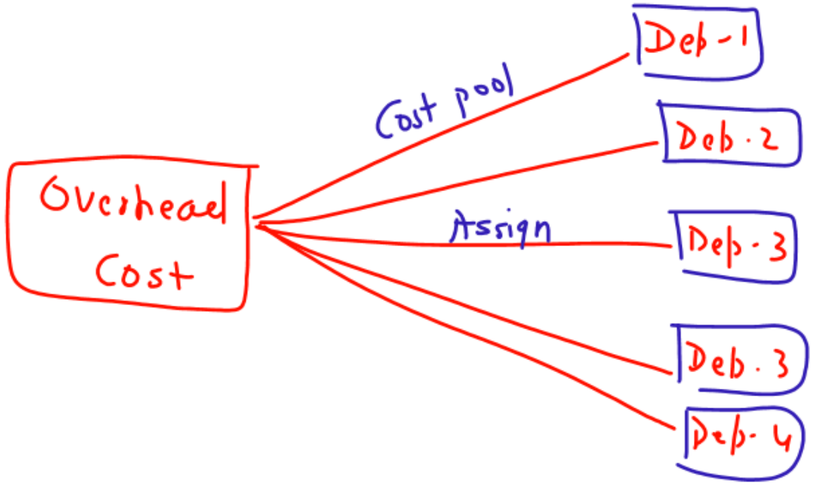
Cost pool

① The term cost pool are used to describe a location to which overhead Cost are initally Assigned. Normally Cost Centres Consist of department.

② But in Some Cases they Consist of Smaller segments Such as Seperate work Centre within a department

③ A Cost pool is a grouping of Individual Cost, typically by department (or) work Centre.

④ Cost pool are Commonly used for Allocation of Factory O/H to the unit of production



The various Cost pools may be as under in a Manfacturing Company

a) purchasing Department

b) Receiving Department

c) Material Handling

d) Step up of Machine

e) Inspection or quality Control

f) Research & developments

g) Customer services

h) production Control

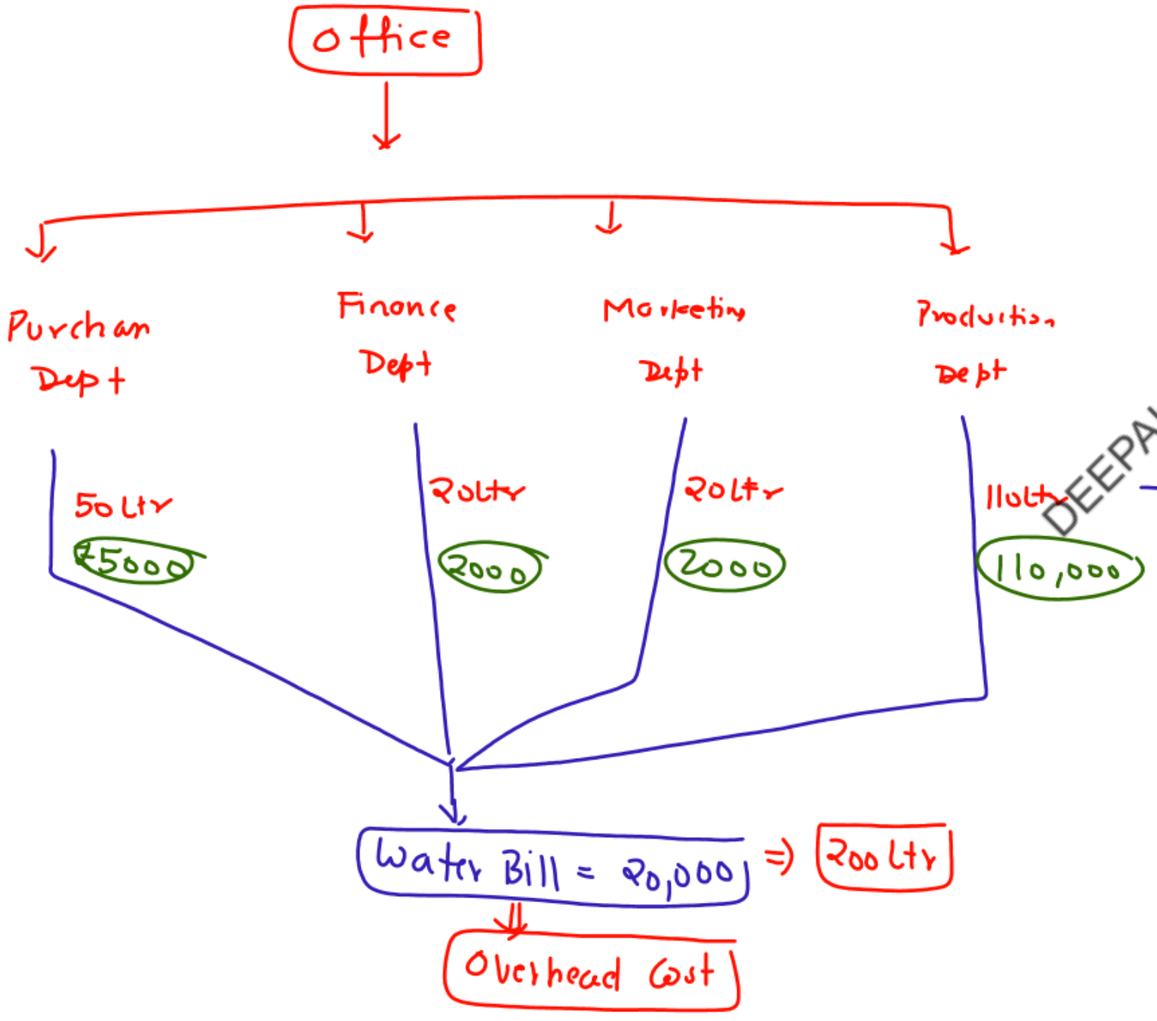
Activity

Simple Meaning of Cost pool

The Amount of money Spent on "Activity"

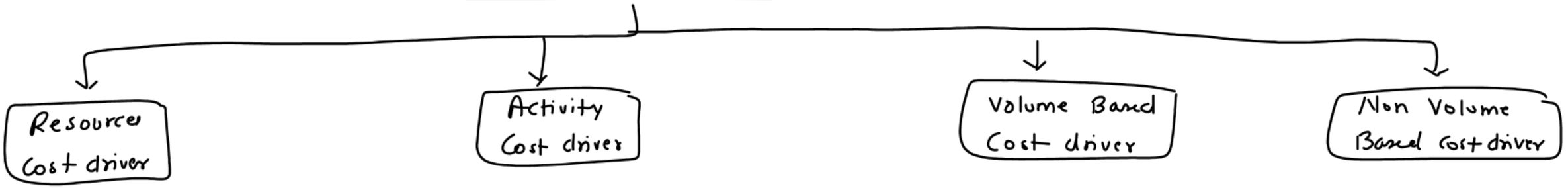
Cost Driver

Cost driver are the the direct cause of Business Expense.



Cost driver = Business Expense hone ke kaaran ko cost driver khete hai aur iske basis par Hum O/H cost ko Assign karte hai usko Cost pool khete hai

Types of Cost driver



List of Cost driver

1. Number of Requisitions
2. Number of Machine setup
3. Number of Machine Hour
4. Number of production run
5. Number of processed order
6. Number of purchase order
7. Number of order Complete
8. Number of labour Hour
9. Number of Inspection
10. Number of order packed & deliver
11. Number of Customer visit etc.

Cost object

It is an items for which Cost Asscertaiment is Required.

Ex ① A product

② A Service

③ A Job

④ A work Centre

Q3 Traditional Method

Total O/H = 190,000

Labour Hour

A = 20,000 × 2 Hr = 40,000 Hr

B = 25000 × 1Hr = 25000 Hr

C = 2000 × 1Hr = 2000 Hr

67000 Hr

O/H absoption Rate = $\frac{190,000}{67000}$ = ₹ 2.84 / Hour

Statement of Profit (Traditional Method)

Particular	A	B	C
Unit	20,000	25000	2000
Sale	400,000	500,000	40,000
less:- Material Cost	(100,000) - 5	(250,000)	(20,000)
labour Cost	(200,000) - 10	(125,000)	(10,000)
O/H Cost @ 2.84/Hr	(1,13,600) - 5.68	(71000)	(5680)
PROFIT	(13,600)	54000	4320
Per unit profit	(0.68)	2.16	2.16

Calculating o/H Cost for all Product under A B C Method

	Total	A	B	C
Setup Cost (10 : 13 : 2)	90,000	36000	46800	7200
Receiving (10 : 10 : 2)	30,000	13,636	13,637	2727
Dispatch (20 : 20 : 20)	15000	5000	5000	5000
Machining (40K : 50K : 4K)	55000	23,404	29,255	2340
	190,000	78,040	94,693	17267
Per unit o/H Cost		3·902	3·787	8·633

Statement of profit (Traditional Method)

Particular	A (20k)		B (25k)		C (4k)	
	Cost	P/unit	Cost	P/unit	Cost	P/unit
Sale	4L	20	5L	20	40k	20
less:- Material Cost	(1L)	5	(2.5L)	10	(20k)	10
labour Cost	(2L)	10	(1.25L)	5	(10k)	5
O/H Cost	(78074)	3.902	(94693)	3.787	(17267)	8.633
PROFIT	21926		30,307		(7267)	
Per unit profit	1.0963		1.21228		(3.6335)	

Q4 Comment

① From the Above Computation, it is observed that when the Company use Traditional Costing Method, the product X is over Cost and product Y is under Cost as Compare to ABC System This is mainly because of Single labour Rate for absoption.

② Product X ⟶ Required more labour Hour and O/H are absorbed on the Basis of Volume only. without Considering the Activity

Product Y ⟶ a low Volume Complex Product Required Specialized skill and activity, the Cost are more as per ABC System.

③ So it Can be said that Since ABC System is using Multiple O/H Rate for absorption based on Cost driver and give true profitability of the product and also the overall profitability of the organization.

Q6 Calculating Activity Consumption Rate

Activity	Budgeted Cost	Activity Consumption	A.C. Rate
Engineering	12 5000	12500 Hr	£10 / Hour
Setup	300,000	300 setup	£1000 / setup
Machine operation	1500,000	150,000 Hour	£10 / Hour
Packing	75 000	15000 order	£ 5 / order
	20,00,000		

Allocation of O/H under ABC System

Activity	Product A (5000 unit)			Product B (20,000 unit)		
	Activity Cost	Cost driver	O/H Cost/unit	Activity Cost	Cost driver	O/H Cost/unit
Engineering	5000	50,000	₹10/unit	7500	75000	3.75/unit
Setup	200	200,000	₹40/unit	100	100,000	5/unit
Machine Operation	50,000	500,000	₹100/unit	100,000	10,00,000	50/unit
Packing	5000	25000	₹5/unit	10,000	50,000	2.5/unit
		7,75,000	155/unit		12,25,000	61.25/unit

Q13

Activity	Cost driver
Setup Cost	No. of setup
Material Handling	No. of movement of material
Inspection	No. of Inspections

Q14 Statement showing Cost drive Rate

S. NO	Activity	Activity Cost (A)	Cost Driver (B)	Cost Driver Rate (A ÷ B)
1	Setup Cost	50,000	100	$\frac{50K}{100}$ = 500 / setup
2	Inspection	50,000	50	$\frac{50K}{50}$ = 100 / Inspection
Total O/H		100,000		

Q15

Income statement under ABC system

(a)

Particular	Tax preparation	Tax Consultancy	Total
Revenue	130,000	270,000	400,000
less:- Expense			
Support	(48000)	(32,000)	(80,000)
Supplies	(2880)	(43,200)	(72000)
Computer Cost	(25800)	(15000)	(40,000)
Profit	28,200	179,800	2,08,000

(b) Income statement under Traditional Method

	Tax preparation	Tax Consultancy	Total
Revenue	130,000	270,000	400,000
less:- Expense			
O/H Expense	(62400) (32.5%)	(129,600) (67.5%)	(192,000)
Profit	67600	140,400	208,000

(c) Under the labour Based overhead Allocation, Tax preparation are more profitable in Traditional System as Compare to ABC Systems. So it advice to the Company to Focus/Concentrate more on Tax preparation.

(d) As per labour Based Allocation → 32.5% of Total O/H are belong to Tax preparation & 67.5% of Total O/H are belong to Tax Consultancy. In ABC System if firm use these percentage of the Both the Activity in All Three Cost driven Then the Result of profit will be identical/same.

Q16

Salary to clerk = Fixed Exp

Printing & postage = Variable Exp

(a) Fixed Cost = $\frac{450000}{15000}$ = 30 Invoice

Variable Cost = $\frac{45000}{15000}$ = 3 Invoice

Total Cost = $\frac{450,000 + 45000}{15000}$ = $\frac{495000}{15000}$ = 33 Invoice

(b) Total activity = Usage Activity + unused Activity

15000 invoice = 12500 Invoice + 2500 Invoice

(c) Calculating Total Cost of Resources

		₹
Fixed Cost	=	450,000
Variable Cost (12500 x 3 | Invoice)	=	37500
Total Cost		487,500

Usage Activity ⇓ 12500 ↓

Cost = 12500 x 33

= 412,500

Unused Activity ⇓ 2500 ↓

Fixed Cost = 2500 x 30

= 75000

Q20

Salary to clerk = Fixed Exp

Printing & postage = Variable Exp

(a) Fixed Cost = $\frac{90,000}{15000}$ = 6 | Invoice

Variable Cost = $\frac{9000}{15000}$ = 0.6 | Invoice

Total Cost = $\frac{90000+9000}{15000}$ = $\frac{99000}{15000}$ = 6.6 | Invoice

(b) Total activity = Usage Activity + unused Activity

15000 invoice = 12500 Invoice + 2500 Invoice

(c) Calculating Total Cost of Resources

		₹
Fixed Cost	(30k x 3) =	90,000
Variable Cost	(12500 x 0·6/Invoice) =	7500
Total Cost		97 500

Usage Activity ⇓ 12 500 ↓

Cost = 12500 x 6·60

= 82 500

Unused Activity ⇓ 2500 ↓

Fixed Cost = 2500 x 6

= 15000

Q17 Statement showing Allocation of overhead under ABC system

	A	B	C	D
No. of unit	500	5000	600	7000
Overhead Cost				
Machine Related Cost [125 : 1250 : 600 : 10,500]	378.246	3782.46	1815.58	31,772.705
Set up Cost [1 : 6 : 2 : 8]	250	1500	500	2000
ordering Cost [1 : 4 : 1 : 4]	192	768	192	768
Material Handing Cost [2 : 10 : 3 : 12]	560	2800	840	3360
Spare part Adm Cost [2 : 5 : 1 : 4]	280	3500	700	2800
Total o/H Cost	2780	12,350.	4,048	40,701
o/H Cost/unit (ABC System)	5.56	2.47	6.75	5.81
o/H Cost/unit (Tradition system)	1.2	1.2	4.8	7.20
Difference	4.36	1.27	1.95	(1.39)

Q18 (a) Statement showing O/H Absorption Rate under Traditional Method

		W	X	Y	Z	Total
Total O/H Cost	(A)	—	—	—	—	152400
Machiner Hour	(B)	1500	250	600	4000	6350
O/H Absorption Rate (Machine Hr)	(A/B)					₹24/Hour

Q18

Cost statement under Traditional Method

	W	X	Y	Z
No. of unit	3000	500	300	1000
Material Cost	150,000	35000	48000	180,000
Labour Cost	150,000	30,000	30000	75000
O/H Cost (₹24 / Hour)	36000	6000	14400	96000
Total Cost	3,36,000	71,000	92,400	3 51,000
Per unit Cost	112	142	308	351

Q18

Cost statement under Traditional Method

	W (5000)		X (500		Y (300)		Z (1000)	
	Cost	Per unit	Cost	Per unit	Cost	Per unit	Cost	Per unit
Material Cost	150,000		35000		48000		180,000	
labour Cost	150,000		30,000		30,000		75,000	
Overhead Cost								
Setup Cost	5000		500		1000		2500	
ordering Cost	4800		800		800		4000	
Handling Cost	2400		200		400		3000	
other Factory O/H Cost (Machine Hour)	30,000		5000		12000		80,000	
Total Cost	342,200	114.06	71500	143	92200	307.33	344500	344.5

Q19 Cost Statement under Traditional Method

Particular	A (720)		B (600)		C (480)		D (504)	
	Cost	P/U	Cost	P/U	Cost	P/U	Cost	P/U
Direct Material	30240	42	27000	45	19200	40	24,192	48
Direct labour	7200	10	5400	9	3360	7	4032	8
Overhead (Machine Hours) [2880 + 1800 + 960 + 504] [1,10,592 / 6144] = @18/Hour	51840	72	32400	54	17280	36	9072	18
	89280	124	64800	108	39,840	83	37,296	74

Statement showing different cost under Traditional & ABC system

	A (120)		B (600)		C (480)		D (504)	
	Cost	P/unit	Cost	P/U	Cost	P/U	Cost	P/U
ABC system		96.875		101.375		98.125		106.232
Traditional system		124		108		83		74
Difference		(27.125)		(6.625)		15.125		32.232

WN-1 Machine operation and Maint. Cost

↓

Setup : Store : Inspection = 4 : 3 : 2

① Setup cost = 20,000 + 63000 × $\frac{4}{9}$ = 20K + 28K = **48000**

② Store Receiving = 15000 + 63000 × $\frac{3}{9}$ = 15K + 21K = **36000**

③ Inspection = 10,000 + 63000 × $\frac{2}{9}$ = 10K + 14K = **24000**

WN-2 Calculating No. of production Run

A = $\frac{720 \text{ unit}}{24 \text{ unit}}$ = **30**

B = $\frac{600 \text{ unit}}{24 \text{ unit}}$ = **25**

C = $\frac{480}{24}$ = **20**

D = $\frac{504}{24}$ = **21**

Total production Run = 30 + 25 + 21 + 20

= **96**

WN-2 Cost driver per unit

Activity	Cost	Cost driver	Cost / unit of driver
Setup Cost	48000	96	500 / setup
Store	36000	200	180 / store Recev.
Inspection	24000	96	250 / Inspection
Mat Handling	2592	192	13.5 / order

Q21 Cost Statement under Traditional Method

Particular	A (120)		B (100)		C (80)		D (120)	
	Cost	P/U	Cost	P/U	Cost	P/U	Cost	P/U
Direct Material	-	40	-	50	-	30	-	60
Direct labour	-	28	-	21	-	14	-	21
Overhead (Machine Hours) [480 + 300 + 160 + 360) ($\frac{26000}{13000}$ = ₹20 / Hour]	9600	80	6000	60	3200	40	7200	60
	17,760	148	13,100	131	6720	84	16,920	141

Cost statement under ABC System

	A (120)		B (100)		C (80)		D (120)	
	Cost	P/U	Cost	P/U	Cost	P/U	Cost	P/U
Direct Material	4800	40	5000	50	2400	30	7200	60
Direct labour	3360	28	2100	21	1120	14	2520	21
Overhead								
Mach Dept Cost (480 : 300 : 160 : 360)	3851		2407		1284		2888	
Setup Cost (6 : 5 : 4 : 6)	1500		1250		1000		1500	
Store Receiving (20 : 20 : 20 : 20)	900		900		900		900	
Inspection (6 : 5 : 4 : 6)	600		500		400		600	
Material Handling and dispatch (12 : 10 : 8 : 12)	1320		1100		880		1320	
	16,331	136.091	13,257	132.571	7984	99.8	16,928	141.06

Machine Depn Cost = 10,430

Machine Hour = 1300 Hr

Cost / Hour = $\frac{10,430}{1300}$ = 8.02307691

A - 480 x 8.02 = 3851

B - 300 x 8.02 = 2407

C - 160 x 8.02 = 1284

D - 360 x 8.02 = 2888

10,430

Q3

Statement showing Allocation of overhead under ABC system

Particulars	A	B	C
Store Receiving	71,040	106,560	1,18,400
Inspection	19435	408,130	4,66,435
Dispatch	50400	75600	84000
Machine setup	360,000	390,000	450,000
Total o/H Cost	5,00,875	9,80,290	11,18,835

Q6 ① Statement showing Cost per unit of Cost driver

Activity	Cost pool	O/H Cost	Cost driver	Cost per unit of Cost driver
Machine oriented Activity	Machine Hour	149,700	49,900	3 / Machine Hour
Oredering Cost	No. of order	7680	30	256 / ordering
Setup Cost	No. of setup	17400	50	348 / setup
Spare part	No. of spare part	34,380	36	955 / spare part
Material Handling	No. of mat Handling	30,294	81	374 / mat Handling

(11) Cost statement under ABC System

	P (1000)		Q (10,000)		R (1200)		S (14000)	
	Cost	P.U	Cost	P.U	Cost	PU	Cost	PU
D. Material	19000	10	100,000	10	38400	32	476,000	34
D. Labour	6000	6	60,000	6	28800	24	252000	18
(+) overhead								
Machine Activity	1500	1.5	15000		7200		126,000	
ordering Cost	768	0.768	3072		768		3072	
Setup Cost	1044	1.044	6264		1740		8352	
Spare part	5730	5.73	14325		2865		11,460	
Mat. Handling	2244	2.244	11,220		3366		13,464	
	27,286	27.286	209,881	20.9881	83,139	69.2825	890,348	63.5962

07

① Statement showing Cost per unit of Cost driver

Activity	Cost pool	O/H Cost	Cost driver	Cost per unit of Cost driver
Machine setup	No. of setup	150,000	250	600/setup
Maehining	Machine Hour	750,000	6000	125/Mach Hr
Assembly	Direct labour Hr	360,000	45000	8/labour Hr
Inspection	No. of Inspection	90,000	100	900/Inspection

Cost statement under ABC System

	A (25k)		B (15k)		C (5k)	
	Cost	P U	Cost	P.U	Cost	P.U
D. Material	10,00,000	40	450,000	30	275,000	55
D. Labour	375,000	15	225,000	15	75000	15
(+) Overhead						
Machine setup	75000	3	45000	3	30,000	6
Maehining	312500	12.5	187500	12.5	250,000	50
Assembly	200,000	8	120,000	8	40,000	8
Inspection	45000	1.8	22500	1.5	22500	4.5
	20,07,500	80.3	10,50,000	70	692,500	138.5

Q10 (1) Cost statement under traditional Method

	A (2500)	B (5000)
Material Cost	75000	250,000
labour Cost	50,000	80,000
O/H Cost (Machine Hour) [$\frac{100,000}{50,000} = ₹2/Hr$]	(25000 Hr × 2) 50,000	(2500 × 2) 50,000
Total Cost	175,000	380,000
Cost per unit	70/unit	76/unit

(11) Cost statement under ABC system

Particular	A (2500)	B (5000)
Direct Material	75000	250,000
Direct labour	50,000	80,000
Overhead		
Set up Cost (300 : 50)	30,000	5000
Inspection (500 : 250)	30,000	15000
Material Handling (300 : 700)	60000	14000
Total Cost	245,000	364000
Cost per unit	98/unit	72.8/unit

Q5 Statement showing Overhead Allocation under ABC system

Particulars	P	Q	R
Machine Deptt Exp (30 : 48 : 54)	420,000	6,72,000	756,000
Assembly Deptt Exp (15 : _ : 27)	240,000	—	432,000
Setup Cost (1250 : 1000 : 1500)	30,000	24000	36000
Store Receiving Cost (40 : 30 : 50)	40,000	30,000	50,000
Order processing & dispatch (1250 : 1000 : 1500)	60,000	48000	72000
Inspection & Quality control Cost (1250 : 1000 : 1500)	12000	9600	14400
Total O/H Cost	802,000	783,600	13,60,400

Q4

$$\text{O/H Recovery Rate} = \frac{\text{Total O/H Cost}}{\text{Total Machine Hr}}$$

$$₹6/\text{Hour} \times \text{Total Machine Hour} = \text{Total O/H Cost}$$

$$6 \times 400{,}000 = \text{Total O/H Cost}$$

Total O/H Cost = 24 00,000

Calculating Total Machine Hour

P = 3000 x 10 Hr = 30,000 Hr

Q = 5000 x 18 Hr = 90,000 Hr

R = 20,000 x 14 Hr = 280,000 Hr

400,000 Hr

Cost statement as per tradition Method

Particular	P	Q	R
Direct Material	270,000	400,000	24,00,000
Direct labour	240,000 (3000 x 4 x 20)	1200,000	32,00,000
Overhead @ ₹6/Hour	180,000	540,000	16,80,000
Total Cost	6,90,000	21,40,000	72,80,000
Cost per unit	230/unit	428/unit	364/unit

Cost statement as per ABC system

Particular	P	Q	R
Direct Material	270,000	400,000	24,00,000
Direct labour	240,000 (3000 x 4 x 20)	1200,000	32,00,000
overhead			
Machine setup Cost [20 : 10 : 20]	192,000	96000	192,000
Machine operation Cost [3 : 9 : 28]	54000	162000	504,000
Inspection Cost [100 : 40 : 60]	480,000	192000	288,000
Material Related Cost [60 : 100 : 160]	45000	75000	120,000
Total Cost	12,81,000	21,25,000	67,04,000
Cost / unit	427	425	335.2

WN-1 Calculating Number of Batches

P = $\frac{3000 \text{ unit}}{150 \text{ unit}}$ = 20 Batches

Q = $\frac{5000 \text{ unit}}{500 \text{ unit}}$ = 10 Batches

R = $\frac{20,000 \text{ unit}}{1000 \text{ unit}}$ = 20 Batches

WN-2 Calculating No. of Inspection

P = 5 x 20 = 100 Inspection

Q = 4 x 10 = 40 " "

R = 3 x 20 = 60 " "

WN-3 Calculating No. of purchase order

P = 20 x 3 = 60 order

Q = 10 x 10 = 100 order

R = 20 x 8 = 160 order

Activity	Cost-driver
Mach setup Cost	No. of Batch
Mach oper. Cost	Machine Hour
Inspection Cost	No. of Inspection
Material Related Cost	No of order

Q2

Step1 :- Current situation

Current selling price = 10/unit

Current Direct Cost = 5/unit

No. of setup = 42

Cost per setup = 450

Production unit per run = 960

Step2 Proposed situation

No of setup = 42 (unchange)

Setup Cost = 450 − 90 = 360

Production unit per run = 1008 unit

Step3 Total production unit

Total production unit = 42 × 1008 unit

= 42,336 unit

Step4 Calculating Direct Cost

Direct Cost = 42,336 unit × 5

= 2,11,680

Step 5 Calculating Cont. per unit

Sale/unit = 10

D. Cost/unit = (5)

Contribution/unit 5

Step 6 Calculating Break even point

$$\text{Break even point} = \frac{\text{Fixed Cost}}{\text{Cont/unit}}$$

$$= \frac{72,100}{5/\text{unit}}$$

$$= \boxed{14,420 \text{ unit}}$$

Step 7 Calculating production Run to achcve B E unit

$$\text{Production Run} = \frac{\text{B.E.P}}{1008\text{unit}} = \frac{14,420}{1008}$$

$$= \boxed{14.30 \text{ Production Run}}$$

(or)

$$\boxed{\text{Approx 15 time}}$$

(1) How many unit = 14,420 unit

How many Prod. Run = 15

Should be Produce in the change for Break even

(2) Yes, Analyst Ltd should Continue to Break up the Remaining Fixed Cost into ABC system so it Provide MORE ACCURATE PRODUCT COSTING

Q1 (a) Calculating New Selling Price to Achieve 100% production Capacity

Coco		Strawbery		Vanilla	
Price	Qty (unit)	Price	Qty (unit)	Price	Qty (unit)
25	50,000	20	20,000	15	60,000
24	55 000	19	22,000	14	66,000
23	60,500	18	24 200	13	72 600

(b) Statement showing Target Cost to achieve 100% production Capacity

	Coco	Strawbery	Vanilla
Production unit	60,500	24,200	72,600
Selling price per unit	23	18	13
(+) Markup / profit [25% of Cost] (20% of sale)	(4.6)	(3.6)	(2.6)
Target Cost / unit	18.4	14.4	10.4

(c) Cost statement under Traditional Method

	Coco (60500)	Strawbery (24200)	Vanilla (12600)
Direct Material	8	6	5
Direct labour	5	4	3
Prime Cost	13	10	8
(+) Store support (30%)	3.9	3	2.4
Total Cost per unit	16.9	13	10.4
Total Cost	10,22,450	3,14,600	7,55,040
Target Cost / unit	18.4	14.4	10.4
Comment	₹1.50 Saved as Compare to target Cost	₹1.40 Saved as Compare to Target Cost	Target Cost achived

Cost statement under ABC system

	Coco (60,500)	Strawbery (24200)	Vanilla (72606)
Direct Material	484000	145,200	363000
Direct labour	302500	96800	217800
Overhead			
ordering (800/purchase order)	28000	24000	12000
delivering (700/per delivery)	78400	46200	33600
self stocking (199/Hour)	25870	29,850	31840
Customer Support (1.10/unit sold)	66,550	26,620	79,860
Total Cost	985,320	3,68,670	7,38,100
Cost/unit	16.29	15.23	10.16
Target Cost/unit	18.40	14.40	10.40
Comment	2.11 – saved	0.83	0.24 →

Statement showing Traditional & ABC system (comparative Statement)

	Coco	Strawbery	Vanilla
ABC	16.29	15.23	10.16
Traditional system	16.90	13	10.40
Difference	(0.61)	2.23	(0.24)

Q8 ① Calculation of overhead

(a) Machining

Overhead Cost = Supervision + Setup + Quality Control

= 100 + 400 + 400

= 900

(b) Assembly

Overhead Cost = Supervision + Quality Control

= 200 + 400

= 600

(c) purchasing / order processing

Overhead Cost = Resources + Customer

= 300 + 300

= 600

(d) Factory Management

Overhead Cost = General admin

= 100

Total overall O/H Cost = 900 + 600 + 600 + 100

= 2200

② Identifying Cost driver (Assumption)

Machinig = No. of production Run

Assembling = No. of Inspection

Purchasing | order processing = Purchase order placed

Factory Management = Customer order Received

(3) Statement showing Allocation of O/H under ABC system

	Cost	A	B	C
Machining (25 : 50 : 50)	900	180	360	360
Assembly (25 : 50 : 50)	600	120	240	240
Purchasing / order (25 : 100 : 200)	600	46·15	184·62	369·23
Factory Mgt (10 : 100 : 200)	100	3·23	32·25	64·52
Total O/H Cost		349·38	816·87	1033·75

Q9 First stage = Machine Hour

Statement showing Allocation of OIH (Traditional)

	A	B
Factory OIH	200,000	800,000
$\left[\frac{10,00,000}{20,000}\right]$ = ₹50/Hr	(4000 × 50)	(16000 × 50)
	200,000	800,000

Second stage = Direct labour Hour

Statement showing Allocation of OIH (Traditional)

	A	B
Factory OIH	3,33,333	6,66,667
$\left[\frac{10,00,000}{30,000}\right]$ = 33.33/Hr	(10,000 × 33.33)	(20,000 × 33.33)
	3,33,333	6,66,667

Statement showing unit cost under Traditional Method [First stage]

	Dulex	Regular
Direct Material	20,000	40,000
Direct wage/labour		
Dept A = 400(D), 1600(R)	10,000	32000
Dept B = 200(D), 800(R)	5000	16000
Prime Cost	35000	88000
(+) overhead		
Factory O/H (Machine Hour)	200,000	800,000
Total Cost	235000	888,000
Per unit Cost	1175/unit	1110/unit

Statement showing unit Cost under Traditional Method (Second stage)

	Dulex (200 unit)	Regular (800 unit)
Direct Material	20,000	40,000
Direct wage/labour		
Dept A = 400(D), 1600(R)	10,000	32000
Dept B = 200(D), 800(R)	5000	16000
Prime Cost	35000	88000
(+) overhead		
Factory O/H (D. Labour Hour)	3,33,333	6,66,667
Total Cost	3,68,333	7,54,667
Per unit Cost	1842/unit	943.33/unit

(2) Statement showing O/H Cost per unit (ABC system)

	Dulex (200 unit)		Regular (800)	
	Cost	Per unit	Cost	Per unit
Material Movement [15 : 20]	3000	15	4000	5
Machine setup [25 : 50]	133,333	666.66	266,667	333.33
Inspection [200 : 800]	1,17,600	588	470,400	588
shipment [50 : 100]	1667	8.33	3333	4.167
	255,600	1278/unit	744,400	930.5/unit

(iii) Cost statement as per ABC system

	Duplex	Regular
D. Material	20,000	40,000
D. labour		
A	10,000	32000
B	5000	16000
overhead [point - (ii)]	255600	744,400
Total Cost	290,600	832,400
Cost per unit	1453/unit	1040.5/unit

List of the Cost Driver

Activity Cost pool	Cost driver
1) Ordering & Receiving of Material	No. of purchase order
2) Setup Machine Cost	No. of setup
3) Machining Cost	Machine Hour
4) Assembling Cost	Labour Hour / No. of parts
5) Inspection & Testing Cost	No. of Inspection / Testing
6) Painting Cost	No. of parts
7) Supervision Cost	Direct labour Hour
8) Material pocurement	No. of order
9) Material Handling	No of Movement / Time
10) Quality Control Cost	No of Inspection
11) Maintanence Cost	Maintanence Hour
12) Machine Maintonence	Machine Hour
13) Packing	No. of order
14) Mould cleaning	Direct Tracing
15) Computer Cost	Computer Hour
etc	

June 2024

Calculating Cost driver Rate

Activity	Cost driver/volume	O/H	Cost driver Rate
Mat. procurment	2200	11.60L	527 / order
Mat. Handling	1360	5L	368 / Handling
Maint.	16800	19.40L	115 / Maint.
Setup cost	1040	8.30L	798 / setup
Quality Control	1800	3.52L	196 / Quality
Machinery	48000	14.40L	30 / Hour

Cost statement under ABC system

Particular	£
D. Material	2 60,000
D. labour	4,90,000
Overhead	
Mat. procurment	27,404
Mat. Handling	13,248
Maint.	1,58,700
Setup cost	39,900
Quality Control	10,976
Machinery	108,000
Total Cost	11,08,228

Dec 2023

Total OH Cost = 2250,000

Calculating Cost drive Rate

Ordering = $\frac{390,000}{1560} = 250$

Delivery = $\frac{630,000}{3150} = 200$

Shelf stocking = $\frac{432,000}{8640} = 50$

Customer support = $\frac{76800}{153600} = 0.50$

Statement showing Total cost & operating Income

		Cake	Pizza	Soft drink
Revenue	(A)	30,24,750	52,51,500	19,83,750
less:- Cost of Good sold		22 50,000	37,50,000	1500,000
Bottle Returning		—	—	30,000
ordering (250)		90,000	210,000	90,000
Delhivery (200)		132000	438000	60,000
shelf-stocking (50)		135000	270,000	27000
Customer Support (0·50)		153000	552000	63000
Total Cost [B]		27 60,000	52,20,000	17,70,000
Operating Income (A-B		264,750	31500	213,750