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Solutions

INTER - Cost and Management Accounting Full Test (Detailed/Unscheduled)

Details: Full Test - 3

Duration: 180

Marks: 100

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Intructions

All the questions are compulsory

Properly mention test number and page number on your answer sheet

In case of multiple choice questions, mention option number only

Working notes are compulsory wherever required in support of your solution

Donot copy any solution from any material.

Attempt as much as you know to fairly judge your performance.

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Suggested Answer

A- 1 (a) WN 1: Computation of normal rate of wages and material cost:

- Let us assume normal rate of wages to be A and material cost to be B

Rowan scheme (Worker A):

- Earnings = Basic wages + Bonus
- Basic wages = (Hours worked x Rate per hour)
- Bonus = $\frac{\text{Actual Time}}{\text{Standard Time}} \times \text{Time saved} \times \text{Rate per hour}$

Halsey Scheme (Worker B):

- Earnings = Basic wages + Bonus
- Basic wages = (Hours worked x Rate per hour)
- Bonus = 50% of time saved x Rate per hour

Particulars	Worker A	Worker B
Direct Material	B	B
Direct Labour		
Basic wages	30A	40A
Bonus	$30/50 \times 20 \times A = 12A$	$50\% \times 10 \times A = 5A$
Factory OH	150	200
Factory cost	3,490	3,600

Worker A: $B + 42A = 3,340$ Equation 1
 Worker B: $B + 45A = 3,400$Equation 2

Equation 2 - Equation 1

$3A = 60; A = 20$

Substituting A in equation 1

$B + 42(20) = 3,340; B = 2,500$

Material cost = 2,500; Normal rate of wages = Rs.20

WN 2: Statement comparing the factory cost of two workers:

Particulars	Worker A	Worker B
Direct Material	2,500	2,500
Direct Labour		
Basic wages	600	800
Bonus	240	100
Factory OH	150	200
Factory cost	3,490	3,600

(b) Cost sheet of _____ for the month of September 2019:

Particulars	Amount	Amount
Direct Material		
Leather sheets	3,20,000	
Cotton cloths	15,000	
Freight on purchase	8,500	3,43,500
Direct Labour (2,000 x 80)		1,60,000
Direct expenses (2,000 x 10)		20,000
Prime Cost		5,23,500
Factory Overheads		
Depreciation [(22,00,000 - 2,20,000)/10]/12 months	16,500	
Rent (Note 1)	98,000	1,14,500
Gross Works Cost/ Net Works cost/Factory cost		6,38,000
Less: Credit for recoveries/scrap (150 x 35)		(5,250)
Cost of Production		6,32,750
Add: Opening stock of Finished Goods		0
Less: Closing stock of Finished Goods (Note 2)		(63,275)
Cost of Goods Sold		5,69,475
Administrative Overheads		

Staff Salary	45,000	
Rent (Note 1)	12,000	57,000
Selling and distribution Overheads		
Staff salary	72,000	
Rent (Note 1)	10,000	
Freight on delivery of bags	18,000	1,00,000
Cost of Sales		7,26,475

Notes:

1. The company pays monthly rent of Rs.1,20,000. Administrative office occupies 240 square feet, sales office occupies 200 square feet and balance area of 1,960 square feet (2,400 - 240 - 200) is occupied by factory

a. Rent for factory = $(1,20,000 \times 1,960/2,400) = 98,000$

b. Rent for administrative office = $(1,20,000 \times 240/2,400) = 12,000$

c. Rent for sales office building = $(1,20,000 \times 200/2,400) = 10,000$

2. Two metres of leather sheets is needed for producing one unit of bag. The company has used 2,000 metres of leather sheets and hence the company has produced 1,000 units. Cost of production for 1,000 units is Rs.6,32,750

a. Cost per unit = $6,32,750/1,000 = \text{Rs.}632.75$

b. Value of closing stock = $632.75 \times 100 = \text{Rs.}63,275$

(c)

Particulars	Calculation	Amount
Direct Material	$500 \times 600/ 50$	6,000

Direct wages	$50 \times 600 / 50$	600
Oven set-up cost	$150 \times 600 / 50$	1,800
Production overheads	$20\% \times 600$	120
Cost of Production		8,520
Selling, distribution and admin overheads	$10\% \times 8,520$	852
Cost of sales		9,372
Profit (25% on sales = 33.33% on cost)	$9,372 \times 33.33\%$	3,124
Sales		12,496
No of units		600
Selling price per muffin		20.8267

(d) WN 1: Distribution of joint cost under NRV Method:

Particulars	X	Y	Z	Total
Sale value after further processing	5,49,000 (366 × 1,500)	6,60,375 (587 × 1,125)	5,70,750 (761 × 750)	17,80,125
Less: Further processing cost	-	-	(3,10,000)	(3,10,000)
NRV (Ratio of distribution)	5,49,000	6,60,375	2,60,750	14,70,125
Share of joint cost	2,33,398	2,80,748	1,10,854	6,25,000

WN 2: Valuation of closing stock and Cost of Good Sold under NRV Method:

Particulars	X	Y	Z
Share of joint cost	2,33,398	2,80,748	1,10,854
Further processing cost	-	-	3,10,000
Total cost	2,33,398	2,80,748	4,20,854
No of units produced	366	587	761
Cost per unit	637.6995	478.2760	553.0276
Value of closing stock (Closing stock × cost per unit)	1,14,786	28,697	13,826
Value of cost of sales (units sold × cost per unit)	1,18,612	2,52,051	4,07,028

WN 3: Computation of Gross margin under NRV Method:

Particulars	X	Y	Z	Total
Sales	2,79,000	5,92,875	5,52,000	14,23,875
Less: Cost of goods sold (WN 2)	(1,18,612)	(2,52,051)	(4,07,028)	(7,77,691)

Gross Margin	1,60,388	3,40,814	1,44,972	6,46,174
Gross Margin %	57.49%	57.48%	26.26%	45.38%

WN 4: Computation of company gross margin under constant gross margin percentage method:

Particulars	Calculation	Amount
Sale value of all units produced	WN 1	17,80,125
Less: Joint cost		(6,25,000)
Less: Further processing cost		(3,10,000)
Overall margin		8,45,125
Overall margin %	$\frac{8,45,125}{17,80,125} \times 100 = 47.4756\%$	47.4756%

WN 5: Distribution of Joint cost under constant gross margin percentage method:

Particulars	X	Y	Z	Total
Sales value of all units	5,49,000	6,60,375	5,70,750	17,80,125
Less: Gross margin (Sales x 47.4756%)	(2,60,641)	(3,13,517)	(2,70,967)	(8,45,125)
Cost of units produced	2,88,359	3,46,858	2,99,783	9,35,000
Less: Further processing cost	-	-	(3,10,000)	(3,10,000)
Share of Joint cost	2,88,359	3,46,858	(10,217)	6,25,000

Note: Share of joint cost is negative for product Z and that is possible under constant gross margin percentage method to make the gross margin same for all products

WN 6: Valuation of closing stock and Cost of Goods Sold under constant gross margin:

Particulars	X	Y	Z
Share of joint cost	2,88,359	3,46,858	(10,217)
Further processing cost	-	-	3,10,000
Total cost	2,88,359	3,46,858	2,99,783
No of units produced	366	587	761
Cost per unit	787.8661	590.9000	393.9330

Value of closing stock (Closing stock x cost per unit)	1,41,816	35,454	9,848
Value of cost of sales (units sold x cost per unit)	1,46,543	3,11,404	2,89,935

WN 7: Computation of Gross margin under NRV Method:

Particulars	X	Y	Z	Total
Sales	2,79,000	5,92,875	5,52,000	14,23,875
Less: Cost of goods sold (WN 2)	(1,46,543)	(3,11,404)	(2,89,935)	(7,47,882)
Gross Margin	1,32,457	2,81,461	2,62,065	6,75,983
Gross Margin %	47.48%	47.48%	47.48%	47.48%

A-2 (a) WN 1: Computation of EOQ:

Base data:

Particulars	Material A	Material B
Annual demand of FG	30,000 x 12 = 3,60,000 kg	
Annual demand of RM	3,60,000 x (5/3)=6,00,000 kg	
Annual demand of RM	6,00,000 x (3/5)=3,60,000 kg	6,00,000 x (2/5)=2,40,000 kg
Ordering cost per order	Rs.120 per order	
Carrying cost per unit per annum	15% x 15 = Rs.2.25 per unit	5% x 22.44# = Rs.1.122 per unit

Material B has CST of 2 percent and there is no input credit available and hence effective purchase price is Rs.22.44 [22 + 2%]

EOQ Calculation

		Material A	Material B
EOQ	=	$\sqrt{2 \times \text{Annual demand} \times \text{Ordering cost per order} / \text{Carrying cost per unit per annum}}$	$\sqrt{2 \times \text{Annual demand} \times \text{Ordering cost per order} / \text{Carrying cost per unit per annum}}$

EOQ	=	$\sqrt{2 \times 3,60,000 \times 120 / 2.25}$	$\sqrt{2 \times 2,40,000 \times 120 / 1.122}$
EOQ	=	6,197 KG	7,165 KG

WN 2: Computation of maximum level of stock A:

Maximum level = ROL + ROQ - (Minimum consumption x Minimum Lead Time)
Consumption per day = $3,60,000 / (25 \times 12) = 1,200$ KG
ROL = Maximum consumption x Maximum Lead Time
ROL = $1,200 \times 2$ days = 2,400 KG
Maximum Level = 2,400 + 8,000 - (1,200 x 1) = 9,200 KG

- Material A is perishable in nature and has a life of 5 days. Hence, we should ensure that maximum level does not exceed 5 days
- Maximum level = 5 days of consumption = 5 days x 1,200 = 6,000 KG
- **Hence, in this case maximum level is restricted to 6,000 KG**

WN 3: Computation of saving/extra cost in EOQ: Particulars	EOQ	Discount
1. Annual Demand (Note 1)	3,78,120	4,80,000
2. Quantity per order	6,197	8,000
3. Number of orders (1/3)	60	60
4. Ordering cost per order	120	120
5. Total ordering cost (3 x 4)	7,200	7,200
6. Average inventory (QPD/2)	3,098.50	4,000
7. Carrying cost per unit per annum	2.25 (15% x 15)	2.025 (15% x 13.50)
8. Total carrying cost (6 x 7)	6,972	8,100
9. Annual Demand	3,78,120	4,80,000
10. Purchase Price	15	13.50
11. Material Cost (9 x 10)	55,77,300	64,80,000
12. Total Inventory Cost (5 + 8 + 11)	55,91,472	64,95,300
13. Cost savings in EOQ	9,03,828	

Note:

1. Company places an order of 6,197 under EOQ. However, any units purchased in excess of 6,000 will become obsolete as the life is only for five days. Hence, we will only get good 6,000 units in every order and we should place 60 orders both in EOQ and discount. Units to be ordered in EOQ = 3,78,120 (60 x 6,197). Units to be ordered in discount model = 4,80,000 (60 x 8,000)

(b) WN 1: Calculation of cost of running one machine for four-week period:

Particulars	Calculation	Amount
Operator wages	20 x 48 hours x 4 weeks x3/3	3,840
Operator bonus	10% x 20 x 44 hours x 4 weeks x3/3	352
Depreciation	52,000 x 10% x4/52	400
Repairs and maintenance	60 x 4	240
Consumables	75 x 4	300
Power	20 units x 0.80 x 44 x 4	2,816
Apportioned costs	(5,400+9,720+12,960) x1/3 x4/52	720
Total Costs		8,668

Note:

- It is assumed that setting up time is unproductive. Power expense will not be incurred during setting up

WN 2: Computation of Machine Hours:

Particulars	Amount
Running Time	176
Setting up time	0
Total	176

WN 3: Computation of MHR:

Particulars	Amount
Budgeted cost (WN 1)	8,668
Machine hours (WN 2)	176
MHR (Cost/Hours)	49.25

A-3 (a) Contract Account for the year ended 31st March ,2014

Particulars	HP-1	HP-2	Particulars	HP-1	HP-2
To Opening WIP	7,80,000	2,80,000	By material at site	47,000	52,000
To Materials	6,20,000	8,10,000	By Cost incurred till date	15,39,658	11,63,599
To wages (incl outstanding)	97,000	70,400			
To Plant hire (Cost/3 years)	24,000	19,000			
To Depreciation (Note 1)	60,658	33,699			
To Donation (Note 2)	5,000	2,500			
Total	15,86,658	12,15,599	Total	15,86,658	12,15,599
To Cost incurred till date	15,39,658	11,63,599	By Work certified	20,50,000	16,10,000
To Costing P&L A/c (Profit for the year)	7,00,342	5,86,401	By work not certified	1,90,000	1,40,000
Total	22,40,000	17,50,000	Total	22,40,000	17,50,000

Note:

Note 1: Depreciation:

• Plant at site has not been recorded in this question as the same plant is used for multiple contracts. Hence, we have directly computed depreciation

• **Depreciation for HP -1 = 8,20,000 x 15% x (180/365) = Rs.60,658**

• **Depreciation for HP -2 = 8,20,000 x 15% x (100/365) = Rs.33,699**

Note 2: Donation:

- It is assumed that donation is exclusively related to contract and hence considered as part of contract cost. We can alternatively remove it from contract account and directly record in profit and loss account

Note 3: Other items:

- Land purchased, brokerage, registration fees cannot be charged to contract account as they are not exclusively related to contract.

(b) WN 1: Input -output statement:

Particulars	Process I	Process II	Process III
Opening stock	0	0	0
Add: Input	10,000	6,200 (9,300 x 2/3)	2,700 (5,400 x 1/2)
Total Input	10,000	6,200	2,700
Less: Closing stock	0	0	0
Processed Production	10,000	6,200	2,700
Less: Normal loss	-500	-930	-540
Expected Output	9,500	5,270	2,160
Actual Output	9,300	5,400	2,100
Abnormal loss/gain	200 (Ab loss)	130 (Ab gain)	60 (Ab loss)

WN 2: Process I Account:

Particulars	Units	Amount	Particulars	Units	Amount
To opening stock	-	-	By Normal loss	500	1,000
To Material	10,000	10,00,000	By Abnormal loss	200	22,000
To Sundry material	10,000		By Sales A/c	3,100	3,72,000
To Labour	30,000		By Process II A/c	6,200	6,82,000

To Direct expenses	6,000				
To Profit and Loss A/c (3,100 x 10)	31,000				
Total	10,000	10,77,000	Total	10,000	10,77,000

Note:

Cost per Good Unit = Debit side of Process Account excl abnormal gain - Sale Value of Normal loss/Expected Output

$$\text{Cost per Good Unit} = 10,46,000 - 1,000/9,500 = ??? \text{ ??? } ????$$

WN 3: Process II Account:

Particulars	Units	Amount	Particulars	Units	Amount
To Opening stock	-	-	By Normal loss	930	4,650
To Process I A/c	6,200	6,82,000	By Sales	2,700	4,45,500
To Sundry materials		15,000	By Process III A/c	2,700	4,05,000
To Labour		80,000			
To Direct expenses		18,150			
To Abnormal gain	130	19,500			
To Profit and Loss A/c (2,700 x 15)		40,500			
Total	6,330	8,55,150		6,330	8,55,150

Note:

Cost per Good Unit = Debit side of Process Account excl abnormal gain - Sale Value of Normal loss/Expected Output

$$\text{Cost per Good Unit} = 7,95,150 - 4,650 / 5,270 = ??? \text{ ??? } ????$$

WN 4: Process III Account:

Particulars	Units	Amount	Particulars	Units	Amount
To Opening stock	-	-	By Normal loss	540	5,400
To Process II A/c	2,700	4,05,000	By Abnormal loss	60	13,800
To Sundry materials		5,000	By Sales	2,100	5,25,000
To Labour		65,000			
To Direct expenses		27,200			

To Profit and Loss A/c (2,100 x 20)		42,000			
Total	2,700	5,44,200		2,700	5,44,200

Note:

Cost per Good Unit = Debit side of Process Account excl abnormal gain - Sale Value of Normal loss/ Expected Output

Cost per Good Unit = 5,02,200 - 5,400 / 2,160 = ??? ??? ????

WN 5: Profit and Loss Account:

Particulars	Amount	Particulars	Amount
To Management expenses	80,000	By Process I A/c	31,000
To Selling expenses	50,000	By Process II A/c	40,500
To Abnormal loss (200 x (110 - 2))	21,600	By Process III A/c	42,000
To Abnormal loss (60 x (230 - 10))	13,200	By Abnormal gain (130 x (150 - 5))	18,850
		By Loss for the year	32,450
Total	1,64,800	Total	1,64,800

A-4 (a) WN 1: Operating cost statement for travel package (Delhi - Jaipur - Agra - Delhi):

Particulars	Calculation	Amount
Fixed cost or standing charges:		
Driver salary	12,000 x 3/30	1,200.00
Other setup and office cost	2,400 x 3/ 30	240.00
Total Fixed Cost (A)		1,440.00
Variable cost or running charges		
Fuel cost for Delhi to Jaipur	274 x 54/ 16	924.75
Fuel cost for Jaipur to Agra	238 x 56/16	833.00

Fuel cost for Agra to Delhi	$242 \times 58 / 16$	877.25
Depreciation	$12,00,000 / 24,00,000 \times 754$	377.00
Servicing cost	$30,000 / 50,000 \times 754$	452.40
Meal allowance (Note)	50×3	150.00
Total Variable Cost (B)		3,614.40
Semi-variable cost or maintenance charges (C)		0.00
Total cost (A+B+C) (75)		5,054.40
Profit (25)	$5054.40 \times (25/75)$	1,684.80
Net takings (100)		6,739.20
GST @ 18%		1,213.06
Total Takings (118)		7,952.26

Note:

- It is assumed that meal allowance of Rs.50 is payable for every completed 200 kms. Hence the meal allowance for 754 kms is Rs.150.

(b) WN 1: Computation of Material Variances:

Computation table:

Material	SP x SQ	SP x RSQ	SP x AQ	AP x AQ
A	$1,000 \times 3,000$	Not required	$1,000 \times 3,400$	$1,100 \times 3,400$
B	$800 \times 2,400$	Not required	$800 \times 2,300$	$700 \times 2,300$
C	$4,000 \times 500$	Not required	$4,000 \times 600$	$3,900 \times 600$
D	$30,000 \times 100$	Not required	$30,000 \times 90$	$31,500 \times 90$
Total	99,20,000	Not required	1,03,40,000	1,05,25,000

Computation of variances:

$$\text{Material cost variance} = \text{SP} \times \text{SQ} - \text{AP} \times \text{AQ} = 99,20,000 - 1,05,25,000 = 6,05,000 \text{ (A)}$$

$$\text{Material Price variance} = \text{SP} \times \text{AQ} - \text{AP} \times \text{AQ} = 1,03,40,000 - 1,05,25,000 = 1,85,000 \text{ (A)}$$

$$\text{Material Usage Variance} = \text{SP} \times \text{SQ} - \text{SP} \times \text{AQ} = 99,20,000 - 1,03,40,000 = 4,20,000 \text{ (A)}$$

WN 2: Computation of Labour Variances:

Computation table:

Labour	SR x SH	SR x RSH	SR x AH	AR x AH
L1	15 x 60,000	Not required	15 x 56,000	18 x 56,000
L2	30 x 40,000	Not required	30 x 38,000	35 x 38,000
Total	21,00,000	Not required	19,80,000	23,38,000

Computation of variances:

$$\text{Labour cost variance} = \text{SR} \times \text{SH} - \text{AR} \times \text{AH} = 21,00,000 - 23,38,000 = 2,38,000 \text{ (A)}$$

$$\text{Labour Rate Variance} = \text{SR} \times \text{AH} - \text{AR} \times \text{AH} = 19,80,000 - 23,38,000 = 3,58,000 \text{ (A)}$$

$$\text{Labour efficiency variance} = \text{SR} \times \text{SH} - \text{SR} \times \text{AH} = 21,00,000 - 19,80,000 = 1,20,000 \text{ (F)}$$

A-5 (a) Marginal costing statement: (in lacs)

Particulars	Original		Scenario (iii)	
	Per unit	Total (50,000 units)	Per unit	Total (45,000 units)
Sales	3,400	1,700	3,910	1,759.50
Less: Variable cost	(1,400)	(700)	(1,400)	(630.00)

Contribution	2,000	1000	2,510	1,129.50
Less: Fixed cost		(850)		(850)
Profit		150		279.50

Note:

BEP in units	Fixed cost / Contribution per unit = 850 lacs/ 2,000	42,500 units
BEP in Rupees	BEP in units x SP = 42,500 units x 3,400	Rs.1,445 lacs
Units to get target profit	Desired profit + Fixed cost /Contribution per unit = 350 + 850 /2,000	60,000 units
Units to achieve target profit (at revised SP)	Desired profit + Fixed cost /Contribution per unit = 350 + 765/3,910 - 1,288	42,525 units

(b) WN 1: Analysis of current position:

Particulars	Product A	Product B	Total
Units sold	2,00,000	1,00,000	
Sales	4,00,000	3,50,000	7,50,000
Less: Direct Material	(1,00,000)	(75,000)	(1,75,000)
Less: Direct wages	(50,000)	(50,000)	(1,00,000)
Less: Variable factory overheads	(50,000)	(50,000)	(1,00,000)
Less: Other variable costs	(50,000)	(30,000)	(80,000)
Contribution	1,50,000	1,45,000	2,95,000
Less: Fixed factory cost			(1,00,000)
Less: Other fixed cost			(80,000)
Profit			1,15,000

Note:

- Variable factory overheads are recovered as percentage of direct wages. Overall variable factory overheads is Rs.1,00,000 and Direct wages is Rs.1,00,000. Hence OAR would be 100 percent of wages

WN 2: Revised budget statement:

Particulars	Product A	Product B	Product C	Total
Units sold	1,50,000	50,000	2,00,000	
Sales	3,00,000	1,75,000	3,50,000	8,25,000
Less: Direct Material	(75,000)	(37,500)	(80,000)	(1,92,500)
Less: Direct wages	(37,500)	(25,000)	(50,000)	(1,12,500)
Less: Variable factory overheads	(37,500)	(25,000)	(50,000)	(1,12,500)
Less: Other variable costs	(37,500)	(15,000)	(50,000)	(1,02,500)
Contribution	1,12,500	72,500	1,20,000	3,05,000
Less: Fixed factory cost				(1,00,000)
Less: Other fixed cost				(80,000)
Profit				1,25,000

Comments:

- Introduction of Product C is likely to increase profits by Rs.10,000. Therefore, introduction of Product C is recommended.

A- 6 (a) a. Imputed Cost

b. Opportunity cost

c. Shut down cost

d. Product Cost

(b) Accounting treatment of idle time wages & overtime wages in cost accounts: Normal idle time is treated as a part of the cost of production. Thus, in the case of direct workers, an allowance for normal idle time is built into the labour cost rates. In the case of indirect workers,

normal idle time is spread over all the products or jobs through the process of absorption of factory overheads.

Under Cost Accounting, the overtime premium is treated as follows:

If overtime is resorted to at the desire of the customer, then the overtime premium may be charged to the job directly. If overtime is required to cope with general production program or for meeting urgent orders, the overtime premium should be treated as overhead cost of particular department or cost center which works overtime. Overtime worked on account of abnormal conditions should be charged to costing Profit & Loss Account. If overtime is worked in a department due to the fault of another department, the overtime premium should be charged to the latter department.

(c) Inventory Control: The Chartered Institute of Management Accountants (CIMA) defines Inventory Control as “The function of ensuring that sufficient goods are retained in stock to meet all requirements without carrying unnecessarily large stocks.

”The objective of inventory control is to make a balance between sufficient stock and over-stock. The stock maintained should be sufficient to meet the production requirements so that uninterrupted production flow can be maintained. Insufficient stock not only pause the production but also cause a loss of revenue and goodwill. On the other hand, Inventory requires some funds for purchase, storage, maintenance of materials with a risk of obsolescence, pilferage etc. A trade-off between Stock-out and Over-stocking is required. The management may employ various methods of Inventory control to have a balance. Management may adopt the following basis for Inventory control:

(d) Zero-based Budgeting: (ZBB) is an emergent form of budgeting which arises to overcome the limitations of incremental (traditional) budgeting system. Zero-based Budgeting (ZBB) is defined as 'a method of budgeting which requires each cost element to be specifically justified, although the activities to which the budget relates are being undertaken for the first time, without approval, the budget allowance is zero'.

ZBB is an activity based budgeting system where budgets are prepared for each activities rather than functional department. Justification in the form of cost benefits for the activity is required to be given. The activities are then evaluated and prioritized by the management on the basis of factors like synchronisation with organisational objectives, availability of funds, regulatory requirement etc. ZBB is suitable for both corporate and non-corporate entities. In case of non-corporate entities like Government department, local bodies, not for profit organisations, where these entities need to justify the benefits of expenditures on social programmes like mid-day meal, installation of street lights, provision of drinking water etc.

ZBB involves the following stages:

- (i) Identification and description of Decision packages
- (ii) Evaluation of Decision packages
- (iii) Ranking (Prioritisation) of the Decision packages
- (iv) Allocation of resources

(e) By-product cost can be dealt in cost accounting in the following ways:

(i) When they are of small total value: When the by-products are of small total value, the amount realised from their sale may be dealt in any one the following two ways:

1. The sales value of the by-products may be credited to the Costing Profit and Loss Account and no credit be given in the Cost Accounts. The credit to the Costing Profit and Loss Account here is treated either as miscellaneous income or as additional sales revenue.

2. The sale proceeds of the by-product may be treated as deductions from the total costs. The sale proceeds in fact should be deducted either from the production cost or from the cost of sales.

(ii) When the by-products are of considerable total value: Where by-products are of considerable total value, they may be regarded as joint products rather than as by-products. To determine exact cost of by-products the costs incurred upto the point of separation, should be apportioned over by-products and joint products by using a logical basis. In this case, the joint costs may be divided over joint products and by-products by using relative market values; physical output method (at the point of split off) or ultimate selling prices (if sold).

(iii) Where they require further processing: In this case, the net realisable value of the by-product at the split-off point may be arrived at by subtracting the further processing cost from the realisable value of by-products. If total sales value of by-products at split-off point is small, it may be treated as per the provisions discussed above under (i). In the contrary case, the amount realised from the sale of by-products will be considerable and thus it may be treated as discussed under (ii).

