COST AND MANAGEMENT ACCOUNTING

ANSWER KEY- Model examination

1. a)

$$EOQ = \sqrt{\frac{2AO}{C}}$$

Where,

A = Annual Demand

O = Ordering cost per order

C = Inventory carrying cost per unit per annum

(i) **Calculation of EOQ**

Super Grow	Nature's Own
$EOQ = \sqrt{\frac{2 \times 2,000 \times 1,200}{480}}$	$EOQ = \sqrt{\frac{2 \times 1,280 \times 1,400}{560}}$
$= \sqrt{10,000}$ or 100 bags	$= \sqrt{6,400}$ or or 80 bags

(ii) Total annual relevant cost = Total annual relevant ordering costs + Total annual relevant carrying cost

Super Grow	Nature's Own
= (2,000/100 × ₹1,200) + (½ × 100 bags × ₹480)	= (1,280/80 × ₹1,400) + (½ × 80 bags × ₹ 560)
= ₹ 24,000 + ₹ 24,000 = ₹ 48,000	= ₹ 22,400 + ₹ 22,400 = ₹ 44,800

(iii) Number of deliveries for Super Grow and Nature's own fertilizer per year

$$= \frac{\text{Annual demand for fertilizer bags}}{EOQ}$$

Super Grow	Nature's Own
$= \frac{2,000 \text{ bags}}{100 \text{ bags}} = 20$ orders	$= \frac{1,280 \text{ bags}}{80 \text{ bags}} = 16$ orders.

b)

Computation of earnings under Taylor's differential piece rate system

	Particulars	Amar	Akbar	Ali
A.	Standard output per day (units) {(8 hours × 60 minutes)/ 20 minutes}	24	24	24
B.	Actual output per day (units)	23	24	30
C.	Efficiency (%) $\left[\frac{\text{Actual output}}{\text{Standarad output}} \times 100\right]$	95.83% $\left[\frac{23 \text{ units}}{24 \text{ units}} \times 100\right]$	100% $\left[\frac{24 \text{ units}}{24 \text{ units}} \times 100\right]$	125% $\left[\frac{30 \text{ units}}{24 \text{ units}} \times 100\right]$
D.	Percentage of piece rate	83%	125%	125%
E.	Rate per unit (₹)	24.90 (83% of ₹30*)	37.50 (125% of ₹30*)	37.50 (125% of ₹30*)
F.	Earnings (₹) (B × E)	572.7	900.00	1,125.00

* Normal rate per unit $= \left[\frac{₹\,90.00}{\text{Standard production per hour}}\right]$

$= \frac{₹\,90.00}{3 \text{ units}} = ₹30$

c)

Contribution per unit = Selling price – Variable cost

= ₹40 – ₹16 = ₹24

Break-even Point = $\frac{₹4,80,000}{₹24}$ = 20,000 units

Percentage Margin of Safety = $\frac{\text{Actual Sales} - \text{Break - even Sales}}{\text{Actual Sales}}$

Or, 60% = $\frac{\text{Actual Sales} - 20,000 \text{units}}{\text{Actual Sales}}$

Actual Sales = 50,000units

	(₹)
Sales Value (50,000 units ×₹40)	20,00,000
Less: Variable Cost (50,000 units ×₹16)	8,00,000
Contribution	12,00,000
Less: Fixed Cost	4,80,000
Profit	7,20,000
Less: Income Tax @ 40%	2,88,000
Net Return	4,32,000

Rate of Net Return on Sales $= \left(\frac{₹4,32,000}{₹20,00,000} \times 100\right) = 21.6\%$

d)

(i) Optimum batch size or Economic Batch Quantity (EBQ):

$$EBQ = \sqrt{\frac{2DS}{C}} = \sqrt{\frac{2 \times 48,000 \times 3,200}{12}} = 5,060 \text{ units.}$$

(ii) Number of Optimum runs = 48,000 ÷ 5,060 = 9.49 or 10 run

Interval between 2 runs (in days) = 365 days ÷ 10 = 36.5 days

(iii) Minimum Inventory Cost = Average Inventory × Inventory Carrying Cost per unit per annum

Average Inventory = 5,060 units ÷ 2 = 2,530 units

Carrying Cost per unit per annum= ₹1 × 12 months = ₹12

Minimum Inventory Holding Costs = 2,530 units × ₹ 12 = ₹30,360

2. a)

(i) Computation of the value of materials purchased

	(₹)
Cost of goods sold	56,000
Add: Closing stock of finished goods	19,000
Less: Opening stock of finished goods	(17,600)
Cost of goods manufactured	57,400
Add: Closing stock of work-in-progress	14,500
Less: Opening stock of work-in-progress	(10,500)
Works cost	61,400
Less: Factory overheads: $\left[\frac{100}{175}\text{ of Direct labour cost}\right]$	(10,000)
Prime cost	51,400
Less: Direct labour	(17,500)
Raw material consumed	33,900
Add: Closing stock of raw materials	10,600
Raw materials available	44,500
Less: Opening stock of raw materials	(8,000)
Value of materials purchased	36,500

(ii) Cost statement

	(₹)
Raw material consumed [Refer to statement (i) above]	33,900
Add: Direct labour cost	17,500
Prime cost	51,400
Add: Factory overheads	10,000
Works cost	61,400
Add: Opening work-in-progress	10,500
Less: Closing work-in-progress	(14,500)
Cost of goods manufactured	57,400
Add: Opening stock of finished goods	17,600
Less: Closing stock of finished goods	(19,000)
Cost of goods sold	56,000
Add: General and administration expenses	2,500
Add: Selling expenses	3,500
Cost of sales	62,000
Profit (Balance figure ₹ 75,000 – ₹ 62,000)	13,000
Sales	75,000

b)

Computation of Notional Profit		(₹)
Value of work certified		5,50,800
Less : Cost of work certified		
(₹ 4,50,000 – ₹ 34,000)		4,16,000
Notional profit		1,34,800
Computation of Estimated Profit		**(₹)**
Contract price		6,12,000
Less : Cost of work to date	4,50,000	
Estimated further expenditure to complete the contract	25,000	
Estimated total cost		4,75,000
Estimated profit		1,37,000

c)

The marginal cost (variable cost) of ₹ 4,400 is apportioned over the joint products A and B in the ratio of their physical quantity i.e 100 : 120

$$\text{Marginal cost for Product A} : ₹\ 4{,}400 \times \frac{100}{220} = ₹\ 2{,}000$$

$$\text{Marginal cost for Product B} : ₹\ 4{,}400 \times \frac{120}{220} = ₹\ 2{,}400$$

The fixed cost of ₹ 3,900 is apportioned over the joint products A and B in the ratio of their contribution margin i.e. 40 : 12

(Refer to working note)

Product A : ₹ 3,900 × 40/52 = ₹ 3,000

Product B : ₹ 3,900 × 12/52 = ₹ 900

Working Note:

Computation of contribution margin ratio

Products	Sales revenue (₹)	Marginal cost ()	Contribution (₹)
A	6,000	2,000	4,000
B	3,600	2,400 (Refer to above)	1,200

Contribution ratio is 40 : 12

3. a)

(i) Computation of Sale Price Per Bottle

Output: 40,000 Bottles

	(₹)
Variable Cost:	
Material	2,10,000
Labour (₹1,50,000 × 80%)	1,20,000
Factory Overheads (₹92,000 × 60%)	55,200
Administrative Overheads (₹40,000 × 35%)	14,000
Commission (8% on ₹6,00,000)(W.N.-1)	48,000
Fixed Cost:	
Labour (₹1,50,000 × 20%)	30,000
Factory Overheads (₹92,000 × 40%)	36,800
Administrative Overheads (₹40,000 × 65%)	26,000
Total Cost	5,40,000
Profit (W.N.-1)	60,000
Sales Proceeds (W.N.-1)	6,00,000
Sales Price per bottle $\left(\frac{₹\,6,00,000}{40,000\ \text{Bottles}}\right)$	15

(ii) Calculation of Break-even Point

Sales Price per Bottle = ₹14

Variable Cost per Bottle = $\frac{₹\,4,44,000\ (\text{W.N.}-2)}{40,000\ \text{Bottles}}$ = ₹11.10

Contribution per Bottle = ₹14 −₹11.10=₹2.90

Break -even Point

(in number of Bottles) = $\frac{\text{Fixed Costs}}{\text{Contribution per Bottle}}$

= $\frac{₹\,92,800}{₹\,2.90}$ = 32,000 Botttles

Break- even Point
(in Sales Value) = 32,000 Bottles ×₹14
= ₹4,48,000

Working Note

W.N.-1

Let the Sales Price be 'x'

$$\text{Commission} = \frac{8x}{100}$$

$$\text{Profit} = \frac{10x}{100}$$

$$x = 4,92,000 + \frac{8x}{100} + \frac{10x}{100}$$

$$100x - 8x - 10x = 4,92,00,000$$

$$82x = 4,92,00,000$$

$$x = 4,92,00,000 / 82 = ₹6,00,000$$

W.N.-2

Total Variable Cost	**(₹)**
Material	2,10,000
Labour	1,20,000
Factory Overheads	55,200
Administrative Overheads	14,000
Commission [(40,000 Bottles × ₹14) × 8%]	44,800
	4,44,000

b)

1. Working Notes:

Total Distance (in km.) covered per month

Bus route	Km. per trip	Trips per day	Days per month	Km. per month
Delhi to Chandigarh	250	2	8	4,000
Delhi to Agra	210	2	10	4,200
Delhi to Jaipur	270	2	6	3,240
				11,440

Passenger- km. per month

	Total seats available per month (at 100% capacity)	Capacity utilised		Km. per trip	Passenger- Km. per month
		(%)	Seats		
Delhi to Chandigarh & Back	800 (50 seats × 2 trips × 8 days)	90	720	250	1,80,000 (720 seats × 250 km.)
Delhi to Agra & Back	1,000 (50 seats × 2 trips × 10 days)	85	850	210	1,78,500 (850 seats × 210 km.)
Delhi to Jaipur & Back	600 (50 seats × 2 trips × 6 days)	100	600	270	1,62,000 (600 seats × 270 km.)
Total					5,20,500

Monthly Operating Cost Statement

	(₹)	(₹)
(i) Running Costs		
- Diesel {(11,440 km ÷ 4 km) × ₹ 56}	1,60,160	
- Lubricant oil {(11,440 km ÷ 100) × ₹ 10}	1,144	1,61,304
(ii) Maintenance Costs		
- Repairs & Maintenance		1,000
(iii) Standing charges		
- Salary to driver	24,000	

-	Salary to conductor	21,000	
-	Salary of part-time accountant	5,000	
-	Insurance (₹ 4,800 ÷12)	400	
-	Road tax (₹ 15,915 ÷12)	1,326.25	
-	Permit fee	315	
-	Depreciation {(₹ 12,00,000 × 20%) ÷ 12}	20,000	72,041.25
Total costs per month before Passenger Tax (i)+(ii)+(iii)			2,34,345.25
Passenger Tax*			93,738.10
Total Cost			3,28,083.35
Add: Profit*			1,40,607.15
Total takings per month			4,68,690.50

*Let, total takings be X then

X = Total costs per month before passenger tax + 0.2 X (passenger tax) + 0.3 X (profit)

X = ₹ 2,34,345.25 + 0.2 X + 0.3 X

0.5 X = ₹ 2,34,345.25 or, X = ₹4,68,690.50

Passenger Tax = 20% of ₹4,68,690.50 = ₹ 93,738.10

Profit = 30% of ₹4,68,690.50 = ₹ 1,40,607.15

Calculation of Rate per passenger km. and fares to be charged for different routes

$$\textbf{Rate per Passenger-Km.} = \frac{\text{Total takings per month}}{\text{Total Passenger-Km. per month}}$$

$$= \frac{₹\ 4,68.690.50}{5,20,500\ \text{Passenger-Km.}} = ₹\ 0.90$$

Bus fare to be charged per passenger.

Delhi to Chandigarh	=	₹ 0.90 × 250 km	=	₹ 225.00
Delhi to Agra	=	₹ 0.90 × 210 km	=	₹ 189.00
Delhi to Jaipur	=	₹ 0.90 × 270 km	=	₹ 243.00

4.

a)

1. **Traditional Absorption Costing**

	A	B	C	Total
(a) Quantity (units)	3,000	1,600	-	-
(b) Direct labour (minutes)	30	45	60	-
(c) Direct labour hours (a × b)	2,000	2,250	1,600	5,850

Overhead rate per direct labour hour:

= Budgeted overheads ÷ Budgeted labour hours

= ₹ 99,450 ÷ 5,850 hours

= ₹ 17 per direct labour hour

Unit Costs:

	A (₹)	B (₹)	C (₹)
Direct Costs:			
- Direct Labour	5.00	7.50	10.00
- Direct Material	8.00	12.00	6.00
- Production Overhead:	8.50 $\left(\frac{17\times30}{60}\right)$	12.75 $\left(\frac{17\times45}{60}\right)$	17.00 $\left(\frac{17\times60}{60}\right)$
Total unit costs	21.50	32.25	33.00
Number of units	4,000	3,000	1,600
Total costs	86,000	96,750	52,800

2. Activity Based Costing

	A	B	C	Total
Quantity (units)	4,000	3,000	1,600	-
Weight per unit (Kg.)	4	6	3	-
Total weight	16,000	18,000	4,800	38,000
Machine operations per unit	6	3	2	-
Total operations	24,000	9,000	3,200	36,200
Total batches of Material	10	5	15	30

Material handling rate per kg. = ₹ 29,000 ÷ 38,800 kg. = ₹ 0.75 per kg.

Electricity rate per machine operations = ₹ 39,150 ÷ 36,200

= ₹ 1,082 per machine operations

Storage rate per batch = ₹ 31,200 ÷ 30 batches

= ₹ 1,040 per batch

Unit Costs:

	A (₹)	B (₹)	C (₹)
Direct Costs:			
Direct Labour	5.00	7.50	10.00
Direct material	8.00	12.00	6.00
Production Overheads:			
Material Handling	3.00 (₹0.75 × 4)	4.50 (₹0.75 × 6)	2.25 (₹0.75 × 3)
Electricity	6.49 (₹1.082 × 6)	3.25 (₹1.082 × 3)	2.16 (₹1.082 × 2)
Storage	2.60 $\left(₹10 \times \frac{₹1,040}{4,000}\right)$	1.73 $\left(₹5 \times \frac{₹1,040}{3,000}\right)$	9.75 $\left(₹15 \times \frac{₹1,040}{1,600}\right)$
Total unit costs	25.09	28.98	30.16
Number of units	4,000	3,000	1,600
Total costs	₹ 1,00,360	₹ 86,940	₹ 48,256

3. Comments: The difference in the total costs under the two systems is due to the differences in the overheads borne by each of the products. The Activity Based Costs appear to be more precise.

b)

Profit and Loss Account

(As per financial records)

	(₹)		(₹)
To Direct Material	50,00,000	By Sales (1,20,000 units)	1,20,00,000
To Direct Wages	30,00,000	By Closing Stock	
To Factory Overheads	16,00,000	Work-in-process	2,40,000
To Gross Profit c/d	29,60,000	Finished Goods (4,000 units)	3,20,000
	1,25,60,000		1,25,60,000
To Administration Overheads	7,00,000	By Gross Profit b/d	29,60,000
To Selling and Dist. OH	9,60,000	By Dividend	1,00,000
To Bad Debts	80,000	By Interest	20,000
To Preliminary Expenses written off	40,000		
To Legal Charges	10,000		
To Net Profit	12,90,000		
	30,80,000		30,80,000

Statement of Cost and Profit

(As per Cost Records)

		Total (₹)
	Direct Material	56,00,000
	Direct Wages	30,00,000
	Prime Cost	86,00,000
	Factory Overhead (20% of ₹ 86,00,000)	17,20,000
		1,03,20,000
Less :	Closing Stock (WIP)	(2,40,000)
	Works Cost (1,24,000 units)	1,00,80,000
	Administration overhead (1,24,000 units @ ₹ 6 p.u.)	7,44,000
	Cost of production of (1,24,000 units)	1,08,24,000
Less :	Finished Goods (4,000 units @ ₹ 87.29)	(3,49,160)
	Cost of goods sold (1,20,000 units)	1,04,74,840
	Selling and Distribution Overhead (1,20,000 @ ₹ 8 p.u.)	9,60,000
	Cost of Sales	1,14,34,840
	Net profit (Balancing figure)	5,65,160
	Sales Revenue	1,20,00,000

Statement of Reconciliation of profit as obtained under Cost and Financial Accounts

		(₹)	Total (₹)
	Profit as per Cost Records		5,65,160
Add :	Excess of Material Consumption	6,00,000	
	Factory Overhead	1,20,000	
	Administration Overhead	44,000	
	Dividend Received	1,00,000	
	Interest Received	20,000	8,84,000
			14,49,160
Less :	Bad debts	80,000	
	Preliminary expenses written off	40,000	
	Legal Charges	10,000	
	Over-valuation of stock in cost book (₹ 3,49,160 – ₹ 3,20,000)	29,160	(1,59,160)
	Profit as per Financial Records		12,90,000

5. a)

Process-I A/c

Particulars	Units	(₹)	Particulars	Units	(₹)
To Raw material used (₹60 × 7,500 units)	7,500	4,50,000	By Normal loss (5% of 7,500 units) ×₹12.5	375	4,688
To Direct wages	--	1,35,750	By Process- II A/c (₹96.7947 × 7,050 units)	7,050	6,82,403
To Direct expenses	--	81,450	By Abnormal loss (₹96. 7947 × 75 units)	75	7,259
To Manufacturing overhead		27,150			
	7,500	6,94,350		7,500	6,94,350

Cost per unit of completed units and abnormal Loss

$$= \frac{\text{Total Cost–Realisable value from normal loss}}{\text{Inputs units–Normalloss units}}$$

$$= \frac{₹\,6,94,350 - ₹\,4,688}{7,500 \text{ units} - 375 \text{ units}} = \frac{₹\,6,89,622}{7,125 \text{ units}} = ₹\,96.7947$$

Process- II A/c

Particulars	Units	(₹)	Particulars	Units	(₹)
To Process- I A/c	7,050	6,82,403	By Normal loss (10% of 7,050 units)× ₹ 37.5	705	26,438
To Direct wages	--	1,29,250	By Finished Stock A/c (₹140.0496 × 6,525 units)	6,525	9,13,824
To Direct expenses	--	84,013			
To Manufacturing overhead	--	19,387			
To Abnormal gain (₹140.0496 × 180 units)	180	25,209			
	7,230	9,40,262		7,230	9,40,262

Cost per unit of completed units and abnormal loss:

$$= \frac{\text{Total Cost} - \text{Realisable value from normal loss}}{\text{Inputs units} - \text{Normalloss units}}$$

$$= \frac{₹\,9,15,053 - ₹\,26,438}{7,050 \text{ units} - 705 \text{ units}} = \frac{₹\,8,88,165}{6,345 \text{ units}} = ₹140.0496$$

Finished Goods Stock A/c

Particulars	Units	(₹)	Particulars	Units	(₹)
To Process II A/c	6,525	9,13,824	By Cost of Sales (₹140.0496 × 6,000 units)	6,000	8,40,298
			By Balance c/d	525	73,526
	6,525	9,13,824		6,525	9,13,824

Income Statement

Particulars	(₹)	Particulars	(₹)
To Cost of sales (₹140.0496 × 6,000 units)	8,40,298	By Abnormal gain {180 units × (₹140.0496 – ₹37.50)}	18,459
To Abnormal loss {75 units × (₹96.7947 – ₹12.50)}	6,322	By Sales (₹8,40,298 × 115%)	9,66,343
To Net Profit	1,38,182		
	9,84,802		9,84,802

b)

Category of workers	SH* × SR	AH@ × SR	AH@ × AR	RSH# × SR
Skilled	1,152 × 3 = 3,456	1,120 × 3 = 3,360	1,120 × 4 = 4,480	1,280 × 3 = 3,840
Semi-skilled	432 × 2 = 864	720 × 2 = 1,440	720 × 3 = 2,160	480 × 2 = 960
Unskilled	216 × 1 = 216	160 × 1 = 160	160 × 2 = 320	240 × 1 = 240
Total	₹ 4,536	₹ 4,960	₹ 6,960	₹ 5,040

* $\text{Actual hours produced} \times \frac{\text{Std. labour hours}}{\text{Total Std. labour hours}}$

Std. hrs. for actual output are calculated as follows :

Skilled $= \frac{1,800}{2,000} \times 1,280 = 1,152$ hrs.

Semi-skilled $= \frac{1,800}{2,000} \times 480 = 432$ hrs.

Unskilled $= \frac{1,800}{2,000} \times 240 = 215$ hrs.

@ Actual no. of workers × 40 hours

\# $\text{Actual hours worked} \times \frac{\text{Std. hours}}{\text{Total Std. hours}}$

Labour Cost Variance = (SH × SR) – (AH × AR)

Or, = ₹ 4,536 – 6,960 = ₹2,424 (A)

Labour Rate Variance = AH (SR – AR) or (AH × SR) – (AH × AR)

Skilled	= 3,360 – 4,480	= ₹1,120 (A)	
Semi-skilled	= 1,440 – 2,160	= ₹ 720 (A)	
Unskilled	= 160 - 320	= ₹ 160 (A)	2,000 (A)

Labour Efficiency Variance = SR (SH – AH) or (SR × SH) – (SR × AH)

Skilled	= 3,456 – 3,360	= ₹ 96 (F)	
Semi-skilled	= 864 – 1,440	= ₹ 576 (A)	
Unskilled	= 216 - 160	= ₹ 56 (F)	₹424 (A)

Labour Mix Variance		= SR (RSH – AH) or (SR × RSH) – (SR × AH)		
	Skilled	= 3,840 – 3,360	= ₹ 480 (F)	
	Semi-skilled	= 960 – 1,440	= ₹480 (A)	
	Unskilled	= 240 - 160	= ₹ 80 (F)	₹ 80 (F)
Labour Yield Variance		= SR (SH – RSH) or (SR × SH – SR × RSH)		
	Skilled	= 3,456 - 3,840	= ₹ 384 (A)	
	Semi-skilled	= 864 - 960	= ₹ 96 (A)	
	Unskilled	= 216 - 240	= ₹ 24 (A)	₹ 504 (A)

Check

(i)	LCV	= LRV + LEV
	₹ 2,424 (A)	= ₹ 2,000 (A) + ₹ 424 (A)
(ii)	LEV	= LMV + LYV
	₹ 424 (A)	= ₹ 80 (F) + ₹ 504 (A)

6.a)

	Points	Description
1.	**Based on Estimates**	Budgets are based on series of estimates which are based on the conditions prevailed or expected at the time budget is established. It requires revision in plan if conditions change.
2.	**Time factor**	Budgets cannot be executed automatically. Some preliminary steps are required to be accomplished before budgets are implemented.It requires proper attention and time of management. Management must not expect too much during the development period.
3.	**Co-operation Required**	Staff co-operation is usually not available during budgetary control exercise. In a decentralised organisation each unit has its own objective and these units enjoy some degree of discretion. In this type of organisation structure coordination among different units are required. The success of the budgetary control depends upon willing co-operation and teamwork,
4.	**Expensive**	Its implementation is quite expensive. For successful implementation of the budgetary control proper organisation structure with responsibility is prerequisite. Budgeting process start from the collection of requirements to budget and performance analysis. It consumes valuable resources for these purpose, hence, it is an expensive process.

5.	**Not a substitute for management**	Budget is only a managerial tool and must be applied correctly for management to get benefited. Budgets are not a substitute for management.
6.	**Rigid document**	Budgets are considered as rigid document. But in reality, an organisation is exposed to various uncertain internal and external factors. Budget should be flexible enough to incorporate ongoing developments in the internal and external factors affecting the very purpose of the budget.

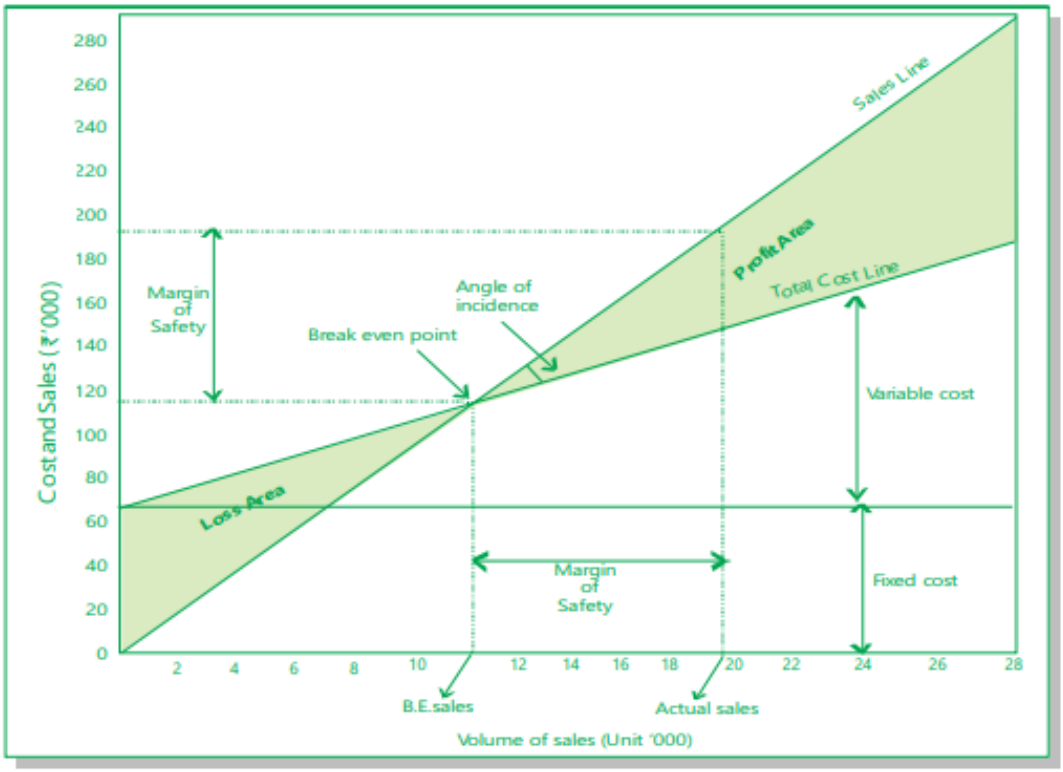
b) Any four

Methods	Description
Single or Output Costing	Here the cost of a product is ascertained, the product being the only one produce like bricks, coals, etc.
Batch Costing	It is the extension of job costing. A batch may represent a number of small orders passed through the factory in batch. Each batch here is treated as a unit of cost and thus separately costed. Here cost per unit is determined by dividing the cost of the batch by the number of units produced in the batch.
Job Costing	In this method of costing, cost of each job is ascertained separately. It is suitable in all cases where work is undertaken on receiving a customer's order like a printing press, motor workshop, etc.
Contract Costing	Here the cost of each contract is ascertained separately. It is suitable for firms engaged in the construction of bridges, roads, buildings etc.
Process Costing	Here the cost of completing each stage of work is ascertained, like cost of making pulp and cost of making paper from pulp. In mechanical operations, the cost of each operation may be ascertained separately; the name given is operation costing.
Operating Costing	It is used in the case of concerns rendering services like transport, supply of water, retail trade etc.
Multiple Costing	It is a combination of two or more methods of costing outlined above. Suppose a firm manufactures bicycles including its components; the parts will be costed by the system of job or batch costing but the cost of assembling the bicycle will be computed by the Single or output costing method. The whole system of costing is known as multiple costing.

c)

This angle is formed by the intersection of sales line and total cost line at the break-even point. This angle shows the rate at which profit is earned once the break-even point is reached. The wider the angle the greater is the rate of earning profits. A large angle of incidence with a high margin of safety indicates extremely favourable position.

The shaded area in the graph given below is representing the angle of incidence. The angle above and below the break-even point shows the rate of earning profitability (loss). Wider angle denotes higher rate of earnings and vice-versa.



d)

Meaning of Activity Based Budgeting(ABB)

Activity based budgeting analyse the resource input or cost for each activity. It provides a framework for estimating the amount of resources required in accordance with the budgeted level of activity. Actual results can be compared with budgeted results to highlight both in financial and non-financial terms those activities with major discrepancies from budget for potential reduction in supply of resources. It is a planning and control system which seeks to support the objectives of continuous improvement. It means planning and controlling the expected activities of the organization to derive a cost-effective budget that meet forecast workload and agreed strategic goals. ABB is the reversing of the ABC process to produce financial plans and budgets.

Benefits of ABB

Few benefits of activity based budgeting are as follows:-

1. Activity Based Budgeting (ABB) can enhance accuracy of financial forecasts and increasing management understanding.
2. When automated, ABB can rapidly and accurately produce financial plans and models based on varying levels of volume assumptions.
3. ABB eliminates much of the needless rework created by traditional budgeting techniques.

e)

The economic batch size or Economic Batch Quantity may be determined by calculating the total cost for a series of possible batch sizes and checking which batch size that gives the minimum cost. Alternatively, a formula can be derived which is similar to determination of Economic Order Quantity (EOQ). The objective here being to determine the production lot (Batch size) that optimizes on both set up and inventory holding cots formula. The mathematical formula usually used for its determination is as follows:

$$EBQ = \sqrt{\frac{2DS}{C}}$$

Where, D = Annual demand for the product

S = Setting up cost per batch

C = Carrying cost per unit of production