MARKS

Question No. 2

(a) Using a conventional absorption costing approach and an absorption rate for overheads based on either direct labour hours or machine hours , the product cost would be as follows:

					Rupees	
Particulars	**A**	**B**	**C**	**D**	**Total**	
Direct Material	45,000	180,000	450,000	1,800,000	2,475,000	0.25 each=1
Direct Labour	16,875	50,625	168,750	506,250	742,500	0.25 each=1
Overhead *	105,000	315,000	1,050,000	3,150,000	4,620,000	0.25 each=1
Total Costs	**166,875**	**545,625**	**1,668,750**	**5,456,250**	7,837,500	0.25 each=1
Units Produced	15	15	150	150		
Cost per unit	**11,125**	**36,375**	**11,125**	**36,375**		0.25 each=1

* Rs . 4,620,000 / ** 990   4,667 — 0.5

** = 1.5 x 15 +4.5 x 15 + 1.5 x 150 + 4.5 x 150 = 990 — 0.5

(b) Using Activity based costing and assuming that

The No. of production runs is cost driver for setup cost, expediting and scheduling costs and material handling costs.

Machine Hours are the cost driver costs driver for short run variable costs.

Unit cost under Activity base costing system are as follows:

					Rupees	
Particulars	**A**	**B**	**C**	**D**	**Total**	
Direct Material	45,000	180,000	450,000	1,800,000	2,475,000	0.25 each=1
Direct Labour	16,875	50,625	168,750	506,250	742,500	0.25 each=1
Short run variable overhead (W-1)	10,500	31,500	105,000	315,000	462,000	0.25 each=1
Setup costs (W-2)	234,000	234,000	585,000	585,000	1,638,000	0.25 each=1
Expediting , scheduling Costs (W-3)	195,000	195,000	487,500	487,500	1,365,000	0.25 each=1
Material Handling Costs (W-4)	165,000	165,000	412,500	412,500	1,155,000	0.25 each=1
Total Costs	**666,375**	**856,125**	**2,208,750**	**4,106,250**	**7,837,500**	0.25each=1
Units Produced	15	15	150	150		
Cost per unit	**44,425**	**57,075**	**14,725**	**27,375**		0.25 each=1

MARKS

Working:		Rs.		
1.	Rs. 462,000 / 990	467	Per Machine hours	0.25
2.	Rs. 1,638,000 / 21	78,000	Per run	0.25
3.	Rs. 1,365,000 / 21	65,000	Per run	0.25
4.	Rs. 1,155,000/ 21	55,000	Per run	0.25

Question No. 3

(a) Four different methods of allocating joint costs to products are: 04

1- Physical measures method simply allocates joint costs to individual products in proportion to their production volumes.

2- Sales value at split-off point method allocates joint costs to individual products based on their sales value at split-off point.

3- Net realizable value method. Under this method joint cost is allocated on the basis of sales value at point of sale less estimated by deducting the further processing costs

4- Gross profit percentage method allocates joint costs so that the overall gross profit percentage is identical for each product.

(b) (i)

	Grinding-Blending-Filtering			**Pound**	**Rupees**	
A	Normal loss (Carcinogenic waste)	[40 ÷ 1,000]	4%			0.5
B	Actual input	[Given]		10,000		
C	Actual Carcinogenic waste	[Given]		600		
D	Less normal waste	[A x B]		400		0.5
E	Abnormal waste	[C - D]		200		0.5
F	Cost as given in question	[Given]			1,800,000	
G	Normal waste disposal cost	[D x 75]			30,000	0.5
H	Sub-total	[F + G]			1,830,000	
I	By-product GL net revenues	[400 x 75]			(30,000)	0.5
J	Net total cost	[H - I]			1,800,000	0.5
K	Expected total output of MF and ES	[(600 + 300) x 10,000 ÷ 1,000]		9,000		0.5
L	Cost per Lb.	[J ÷ K]			200	0.5
M	Cost of abnormal waste	[E x L]		200	40,000	0.5
N	Total cost to be allocated MF & ES	[J - M]			1,760,000	0.5

Allocation: Rupees

Product	Output (Lb.) (A)	Final Selling Price (B)	Final Sales Value (C) = A x B	Cost Allocated C x 1,760,000 ÷ 2,200,000	
MF	5,000	200	1,000,000	800,000	1
ES	4,000	300	1,200,000	960,000	1
			2,200,000	1,760,000	

		MARKS
(ii)	**Rupees**	
Incremental sales revenue per Lb from further processing (300 - 180.50)	119.50	0.5
Incremental (variable) cost per Lb of further processing	59.50	
Incremental contribution per Lb from further processing	60.00	0.5
Total contribution per Lb from further processing (4,000 Lbs. x 60)	240,000	0.5
Avoidable fixed costs (240,000 x 0.50)	120,000	0.5
Net benefit	120,000	0.5

$$\text{Break-even point} = \frac{\text{Avoidable fixed cost}}{\text{Incremental contribution per Lb from further processing}}$$

$$= \frac{120,000}{60} \qquad\qquad 0.5$$

$$= \quad 2,000 \text{ Lbs.} \qquad\qquad 0.5$$

Further processing should be undertaken if output is expected to exceed breakeven point. 0.5

Question No. 4

Rs. '000'

Year	Cash Revenue	Cash Costs		Net Cash Flows	Cumulative Cash flows	Discount Factor at 11%	Discounted Cash flows	Cumulative Amount	
		Fixed	Variable						
	(1)	(2)	(3)	(4)=(1)-(2)-(3)	(5)	(6)	(7)=(4)x(6)	(8)	
0				(170,000)	(170,000)	1.000	(170,000)	(170,000)	0.50
1	95,000	93,000	8,550	(6,550)	(176,550)	0.901	(5,902)	(175,902)	1.25
2	120,000	93,000	10,800	16,200	(160,350)	0.812	13,154	(162,747)	1.25
3	135,000	93,000	12,150	29,850	(130,500)	0.731	21,820	(140,927)	1.25
4	160,000	93,000	14,400	52,600	(77,900)	0.659	34,663	(106,263)	1.25
5	175,000	93,000	15,750	66,250	(11,650)	0.593	39,286	(66,977)	1.25
6	185,000	93,000	16,650	75,350		0.535	40,312	(26,665)	1.00
7	145,000	93,000	13,050	38,950		0.482	18,774	(7,891)	1.00
8	130,000	93,000	11,700	25,300		0.434	10,980		0.75

$$\text{Payback} = 5 + \frac{11,650}{75,350} = 5.15 \text{ years} \qquad \text{Discounted payback} = 7 + \frac{7,891}{10,980} = 7.72 \text{ years} \qquad 3.50$$

MANAGEMENT ACCOUNTING [G3] – GRADUATION LEVEL

MARKS

Question No. 5

(a) **(i)** **Stock out Costs:**   01

These costs result from not having enough inventories in stock to meet customers' needs. These costs include lost sales, customers' ill will, and the costs of expediting orders for goods not in stock.

(ii) **Lead Time:**   01

The time period between placing an order till the receipt of the goods from suppliers is called lead time.

(iii) **Reorder Point:**   01

The point of time when an order is required to be placed or production to be initiated to replenish depleted stocks is called reorder point. It is determined by multiplying the lead time and average usage.

(vi) **Safety Stock:**   01

To minimize stock outs on account of increased demand or delays in delivery etc., a buffer stock is often maintained. Such a buffer stocks is called Safety stock.

(b)

Re-order level =	Maximum usage × maximum lead time	
=	500 x 7	
=	3500 Units	1.0
Average lead time =	(Maximum lead time + minimum lead time) ÷ 2	
=	(7 + 3) ÷ 2	
=	5 Months	1.0
Average lead time usage =	Average usage × average lead time	
=	5 x 250	
=	1250 Units	1.0
Minimum level =	Re-order level – average lead time usage	
=	3500 – 1250	
=	2250 Units	1.0
Average stock level =	Minimum level + ½ (reorder quantity)	
	2250 + ½ x 800	
	2650 Units	1.0

MARKS

Question No. 6

(a)

	Planning Budget			MARKS
	Numbers	Rs. in'000'		
Budgeted courses (Bc)	**5**			
Budgeted students (Bs)	**80**			
Revenue		320	(4000 x Bs)	1.0
Expenses:				
Instructor wages		100	(20,000 x Bc)	1.0
Classroom & lab supplies		32	(400 x Bs)	1.0
Utilities		15	(10,000+1,000 x Bc)	1.0
Campus rent		40		
Insurance		4		
Administrative expenses		61	(35,000 + 2,000 x Bc + 200 x Bs)	1.0
Total expense		252		0.5
Net operating income		68		0.5

(b)

	Flexible Budget			MARKS
	Numbers	Rs. in '000'		
Budgeted courses (Bc)	**4**			
Budgeted students (Bs)	**75**			
Revenue		300	(4000 x Bs)	1.0
Expenses:			0	
Instructor wages		80	(20,000 x Bc)	1.0
Classroom & lab supplies		30	(400 x Bs)	1.0
Utilities		14	(10,000+1,000 x Bc)	1.0
Campus rent		40		
Insurance		4		
Administrative expenses		58	(35,000 + 2,000 x Bc + 200 x Bs)	1.0
Total expense		226		0.5
		74		0.5

MARKS

Question No. 7

				Rupees		
(a)						
A	Materials	[Given]		750,000		
B	Direct labour	[Given]		400,000		
C	Variable manufacturing overhead	[Given]		150,000		
D	Total standard cost per set			1,300,000		
E	Bed sheet cover sets produced (**number**)	[Given]	1,000			
F	Standard cost of bed sheet cover per set	= [D] ÷ [E]		1,300		1.0
G	Deduct difference between standard and actual cost	[Given]		50		
H	Actual cost per bed sheet cover set	= [F] + [G]		1,250		1.0
(b)						
I	Standard materials cost per bed sheet cover set	= [A] ÷ [E]		750		1.0
J	Standard materials cost per meter	[Given]		250		
K	Standard materials quantity per set (**meters**)	= [I] ÷ [J]	3.00			1.0
(c)						
L	Actual cost of material used	[Given]		700,000		
M	Total material variance	= [A] - [L]		50,000	Fav.	1.5
N	Direct materials quantity variance	[Given]		(50,000)	Adv.	
O	Direct materials price variance	= [M] - [N]		100,000	Fav.	1.5
(d)						
P	Standard variable manufacturing overhead rate per DL hour [Given]			120		
Q	Standard direct labor-**hours**	= [C] ÷ [P]	1,250			1.0
R	Standard direct labour rate per hour	= [B] ÷ [Q]		320.00		1.0
(e)						
S	Total actual cost of production.	= [E] x [H]		1,250,000		1.0
T	Actual cost of variable manufacturing overhead	[Given]		144,000		
U	Actual cost of direct labor .	= [S] - [L] - [T]		406,000		1.0
V	Actual direct labour-**hours**	[Given]	1,300			
W	Actual hours of input at standard labour rate	= [R] x [V]		416,000		1.25
X	Labour rate variance	= [W] - [U]		10,000	Fav.	1.25
Y	Labour efficiency variance	= [B] - [W]		(16,000)	Adv.	1.25
Z	Total labour variance			(6,000)	Adv.	1.25

MARKS

Question No. 8

(a)

			Debit	Credit	
Raw and in-process inventory			41,000,000		0.5
Accounts payable				41,000,000	0.5
Conversion costs			20,500,000		0.5
Wages payable, Accumulated depreciation, etc.				20,500,000	0.5
Finished goods inventory			60,300,000		0.5
Raw and in-process inventory	(100,500	x Rs. 400)		40,200,000	0.5
Conversion costs	(100,500	x Rs. 200)		20,100,000	0.5
Cost of goods sold	(99,500	x Rs. 600)	59,700,000		0.5
Finished goods inventory				59,700,000	0.5

Conversion costs

20,500,000		20,100,000	0.5
	Bal	400,000	0.5
20,500,000		20,500,000	
Bal 400,000			0.5

MARKS

(b)	Cost of goods sold	400,000	0.5
	Conversion costs	400,000	0.5

(c)

Cost of goods sold

	59,700,000			0.5
	400,000	Bal	60,100,000	0.5
	60,100,000		60,100,000	
Bal	60,100,000			0.5

Raw & in-process inventory

	41,000,000		40,200,000	0.5
		Bal	800,000	0.5
	41,000,000		41,000,000	
Bal	800,000			0.5

THE END