

Total cost of goods available	5,40,000
Less: Ending inventory (2,000 @ Rs. 18)	36,000
Total variable cost of sales	5,04,000
Contribution margin	3,36,000
Less: Fixed manufacturing overhead	1,00,000
Net income before tax	2,36,000

Required: a. Conversion of income statement into absorption costing statement

b. Reconciliation of difference in profit, if any.

[10]

Ans: (a) Rs. 2,32,000; (b) Rs. (4,000)

13. 2046 Q.No. 5

Presented below are two years of sales and production data for Tree life Industries, which uses FIFO inventory valuation. Normal production volume is 80,000 units.

Particulars	Year 1	Year 2
Production in units	Rs. 80,000	Rs. 60,000
Sales in units	50,000	80,000
Prime cost per unit	Rs. 13	Rs. 13
Variable manufacturing overhead per unit	5	5
Variable selling and administrative	3	3
Fixed manufacturing overhead	4,00,000	4,00,000
Fixed selling and administrative	3,00,000	3,00,000
Selling price per unit	40	40
Beginning inventory in units	30,000	?

Cost of beginning inventory is the same as the cost of production in year 1 for both variable costing and absorption costing methods.

Required: a. Prepare a variable costing and absorption costing income statement for both years.

b. Prepare a schedule that reconciles the net income between the two methods for both years.

[20]

Ans: (a) Rs. 2,50,000; Rs. 8,20,000; Rs. 4,00,000; Rs. 7,20,000 (b) Rs. 1,50,000; Rs. (1,00,000)

14. 2045 Q.No. 5

The following are two years of sales and production data for Rice Companies, which uses FIFO inventory valuation.

Particulars	Year I	Year II
Production in units	1,00,000	30,000
Sales in units	50,000	1,00,000
Prime cost per unit	Rs. 11	Rs. 11
Variable manufacturing overhead per unit	Rs. 5	Rs. 5
Variable selling and administrative	Rs. 3	Rs. 3
Fixed manufacturing overhead	3,00,000	3,00,000
Fixed selling and administrative	1,00,000	1,00,000
Selling price per unit	30	30
Normal capacity in units	75,000	75,000
Beginning inventory in units	30,000*	

*Cost of beginning inventory is the same as the cost of production in year I for both direct costing and absorption costing.

Required: a. Prepare a variable costing and an absorption costing income statement for both years.

b. Prepare a schedule that reconciles the net income between the two methods for both years.

[10+10]

Ans: (a) Rs. 3 and Rs. 1,50,000; Rs. 7,00,000; Rs. 3,50,000, Rs. 4,20,000 (b) Rs. 2,00,000; Rs. (2,00,000)

15. 2040 Q.No. 3

The Directorium Manufacturing Company produced 80,000 units of a new product during 1976 and sold 60,000 units at Rs. 50 each. Costs for 1976 were as follows:

Particulars	Fixed costs	Variable costs
Direct materials		2,00,000
Direct labour		1,60,000

Manufacturing overhead	4,40,000	3,20,000
Selling and administrative expenses	2,80,000	80,000
There was no ending work-in-progress inventory.		

- Required: a. Prepare comparative income statements for the year 1976 using (i) the absorption cost method and (ii) the direct cost method.
 b. Give the reasons for the differences in reported net income or net loss in requirements a (i) and a (ii).

[10+10]
 Ans: (a) Rs. 18,00,000 & Rs. 16,90,000

5. COST VOLUME PROFIT ANALYSIS

MBS

1. 2071 Q.No. 4

XYZ Co. manufactures two products X and Y. The demand for both the products is relatively constant throughout the year. The data relating to the products are given below:

Product	X	Y
Selling price/ unit	Rs. 12	Rs. 10
Variable cost/ unit	Rs. 8	Rs. 7
Contribution margin/ unit	Rs. 4	Rs. 3
Raw material required:		
X	1 unit	2 units
Y	2 units	1 unit
Direct labour hour required	2 hours	2 hours
Resources available		
X	10,000 units	
Y	10,000 units	
Direct labour hours	12,000 hours	

- Required: i. Linear programming model
 ii. BEP sales units, if sales mix is 2 : 1 and fixed cost are Rs. 55,000. [5+2]
 Ans: (i) Max profit = Rs. 22,000 at X = 4,000 units; Y = 2,000 units (ii) Overall BEP units = 15,000 units; X = 10,000 units and Y = 5,000 units

2. 2070 Q.No. 6 OR

An industry produces and sells 200 units X and 300 units of Y. Other related information regarding the products given below:

	Product X	Product Y
Selling price per unit	Rs. 450	Rs. 120
Variable manufacturing cost per unit:		
Material at Rs. 30 per unit	6.75 units	1.5 units
Labour at Rs. 15 per hour	9 hrs	3 hrs
Department fixed cost (Rs.)	7,500	1,500
Joint fixed cost (Rs.)	8,900	

The industry expects the insufficient supply of material and labour in coming year. The company expects only 800 units of material and 1400 labour hours.

- Required: ① Overall industry's breakeven point in units at present level of sales.
 ② Required level of sales in units to earn Rs. 3,500 profit.
 ③ Linear programming model to maximize the profit at given level of constraints.
 ④ Probability of sales mix at least breakeven, if sales are 250 units, 300 units, 350 units, 400 units and their probability are 0.4, 0.3, 0.2, 0.1 respectively. [3+2+4+3=12]
 Ans: ① 284.126 units ② 340 units ③ Max. Rs. 15,082.5 at X = 45 and Y = 334 ④ 62.55%

3. 2070 Old Q.No. 5

The manufacturing overhead cost of a company are as follows:

Output	20,000 units	30,000 units
Direct material (Rs.)	40,000	60,000
Direct labour (Rs.)	20,000	30,000

Depreciation (Rs.)	10,000	10,000
Supervision (Rs.)	30,000	40,000

Company has normal capacity of 20,000 DLH and one unit of output would need 0.5 DLH, other information are:

Production volume	30,000 units
Labour hour paid	18,000 hrs
Actual overhead cost	Rs. 250,000
Selling price per unit	Rs. 10

Required: i. Overhead three variances

ii. Breakeven point in units

[4.5+1.5=6]

Ans: (i) CV = Rs. 5,000 (U); EV = Rs. 194,000 (U); SV = Rs. 194,000 (U) (ii) 3,334 units

4. 2069 Q.No. 4

Kantipur Bricks Factory produced and sold two types of products, Hollow Bricks and Cement Tiles. The income statement and other relevant data are given as:

Income Statement

	Hollow Bricks	Cement Tiles	Total
Sales (units)	10,000	15,000	25,000
Sales revenue Rs.	300,000	600,000	900,000
Less: Variable Cost:			
Direct materials @ Rs. 4/kg.	80,000	240,000	320,000
Direct labour @ Rs. 4/hr.	120,000	120,000	240,000
Total Variable Cost	200,000	360,000	560,000
Contribution Margin	100,000	240,000	340,000
Less: Fixed Cost			
Direct	40,000	60,000	100,000
Joint	-	-	110,000
		Total Fixed Cost	210,000
		EBT	130,000

Due to extensive road expansion program in Kathmandu Valley, the factory is facing some short supply of raw materials and labours. In the coming years, the availability of raw materials and labour will be 60,000 kgs and 45,000 hrs respectively.

Required: i. Overall BEP in units.

ii. Sales mix in units to earn after tax profit of Rs. 180,000. The tax rate is 40%.

iii. Linear programming model to maximize profit under constraints.

[2+1+4=7]

Ans: (i) 15,411.2 units (ii) 15,000 units and 22,500 units (iii) Max. Profit Rs. 250,000; 7,500 units of Hollow Bricks and 11250 units of Cement tiles

5. 2069 (Old) Q.No. 4

The data of the two products produced by a firm are as under:

	Product A	Product B
Selling price per unit	Rs. 50	Rs. 60
Variable cost per unit	Rs. 28	Rs. 32
Sales units	3,000 units	2,000 units
Raw material consumption/unit	2 units	4 units
Direct labour hour per unit	3 DLH	4 DLH

Estimates of the resources available are:

Raw material	24,000 units
Direct labour hours	18,000 DLH

The joint fixed overhead for the year is Rs. 76,800.

Required: ① Overall break-even sales in units

② Solve the problem graphically for the determination of the optimal product mix. [2+4=6]

Ans: (i) 3,148 units (ii) Max Profit Rs. 132,000 will be at Product A = 6000 units Product Y = 0.

6. 2068 Q.No. 1 OR

A factory has presented relevant financial matters for its future course of action.

Products	X	Y
Sales in units	13,000	18,000
Sales revenues	819,000	1,161,000
Material @ Rs. 10 [*] per kg	520,000	360,000
Wages @ Rs. 6 per kg	156,000	648,000
Total direct cost	676,000	1,008,000
Contribution margin	143,000	153,000

The annual fixed costs of the factory is Rs. 450,000 which includes depreciation of Rs. 50,000 charged on plant.

The factory can manage 160,000kg of material and 180,000 direct labours hours during the upcoming year.

Required: i. The profitable product mix under resource constraints for the upcoming year by using linear programming and expected profit.

ii. Cash BEP sales volume of the factory for the period.

[5+2=7]

Ans: (i) 30,000 units and 20,000 units: Rs. 50,000 (ii) Rs. 26,75,676: X : 17,568 units and Y : 24,324 units; Total = 41,892 units

7. 2068 (Old) Q.No. 6

A multi-product manufacturing company provides the following information

Product	A	B
Units produced & sold	800	1200
Unit contribution margin	Rs. 97.5	Rs. 135
Separable capacity cost	Rs. 20,000	Rs. 28,000
Joint capacity cost		Rs. 60,000

Required: (a) BE sales units, if the sales mix is changed to one to one

(b) Use linear programming technique to maximize profit under constraint given below:

Availability of raw materials = 4,200 units; Maximum available LHs = 15,000 hours

(c) Probability of incurring loss if

	A	B
Expected sales units	1,120	1,080
Standard deviation of sales units	228	260
Expected profit	Rs. 480	Rs. 320
Standard deviation of profit	Rs. 912	Rs. 1,040

[3+4+3=10]

Ans: (a) 929 units (c) A: 29.81%; B: 37.83%

8. 2067 (I) Q.No.6 OR

The following information of a manufacturing company producing two product A and B are provided below:

	Product A	Product B
Selling price per unit	Rs. 30	Rs. 40
Variable manufacturing cost per unit:		
Direct material at Rs. 4 per unit	2 units	4 units
Direct labour at Rs. 4 per unit DLH	3 DLH	2 DLH
Departmental fixed cost	Rs. 40,000	Rs. 40,000
Joint fixed cost Rs. 50,000		

Available material and direct labour hour for the period are:

Direct material	60,000 units
Direct labour hour	48,000 DLH

Required: ① Over-all company's break even point, if sales mix 1:1

② Required sales to earn Rs. 50,000 before tax profit

③ Linear programming model to maximize the profit under given constraints

④ Probability of sales mix at least breakeven under following expected sales and probability.

[3+2+4+3=12]

Sales mix	Probability
8,000	0.2
10,000	0.3
12,000	0.4
14,000	0.1

Ans: ● 10,000 units ● 13,847 units ● A = 9,000 units; B = 10,500 units; 67%

9. 2067 (II) Q.No.6 OR

A multi product manufacturing Ltd. of H/D Estate that presently produced Towel and Bath Towel provides the following information relating to its present products.

Product:	Towel	Bath Towel
Units produced & sold	800	1200
Unit selling price	Rs. 287.5	Rs. 340
Contribution margin	Rs. 78,000	Rs. 162,000
Fixed cost	Rs. 40,000	Rs. 68,000
Direct material per unit	2 kg	2.5 kg
Direct labour hours per unit	9 hrs	8 hrs
Availability of raw materials at Rs. 50 per kg:		4150 kgs
Direct labour hours @Rs. 10 per hrs.		14,950 hours

- Required: ① Overall BE sales volume in units ② BE sales units if sales mix change to one to one
 ③ Use linear programming mode to maximize profit under existing resource constraints
 ④ Probability of at least reaching breakeven if expected sales and standard deviation of sales for two products are given as under [3+3+3+3=12]

Product:	Towel	Bath Towel
Expected sales units	840	1190
Standard deviation of sales units	210	320
Expected profit = $(p - b) \mu - a$	41900	92650
Standard deviation of profit	20475	43200

Ans: (1) 900 units (2) 929 units (3) Rs. 224,100 at 1660 units of Bath Towel (4) 98.90% and 97.88%

10. 2067 (II) (Old) Q.No.6

A manufacturing company produces product "Alpha" and "Beta" provides the following information

Product	Unit contribution Margin	Material uses per unit	Labour hours required per unit
Alpha	Rs. 25	1.5	0.5
Beta	Rs. 20	1.0	0.75
Available resources:			
Material:			15,000 units
Labour hours:			7,500 hours

- Required: i. Break even sales units, if both the products need to be sold equally and total fixed cost amounted to Rs. 225,000.
 ii. Break even sales units, if sales mix of Alpha and Beta will be 2:3 and fixed cost increases by Rs. 6,000.
 iii. To earn after tax profit of Rs. 13,500 required sales unit of Alpha and Beta when sales mix will be 1:1 and fixed cost Rs. 225,000. The tax rate is 40%.
 iv. Production plan to maximize the profit using linear programming model. [2+2+2+4=10]

Ans: (i) 10,000 units (ii) 10,500 units (iii) 11,000 units (iv) (x, y) = (6,000, 6,000)

11. 2066 Q.No. 1 OR

A company manufactures three different products- A, B and C. The company has experienced considerable variations in sales volume and variable costs over the past years and believes that the forecast should be carefully evaluated from cost-volume-profit viewpoint. The preliminary budget information for coming year are:

	Product A	Product B	Product C
Sales units	6,000	9,000	15,000
Unit selling price	Rs. 25	Rs. 20	Rs. 10
Unit variable cost	Rs. 15	Rs. 10	Rs. 4

Overall break-even point is determined at 20,000 units.

The company has a tax rate of 25%

- Required:** i. Assuming the sales mix remains as budgeted, determine the fixed costs.
 ii. If the fixed cost increases by Rs. 20,000 and sales mix remains as budgeted, how many units of each product of company must sell in order to break even in coming year?
 iii. "Cost-volume-profit analysis is important tool for profit planning." Comment. [2+3+2=7]

Ans: (i) Rs. 160,000 (ii) 4,500 units, 6,750 units and 11,250 units

12. 2066 Partial Q.No. 4

A company manufactures and sells two products x and y. The information relating to products are:

	Product x	Product y
Unit selling price	Rs. 160	Rs. 120
Variable cost per unit	Rs. 128	Rs. 104
Sales units	3,000	1,000
Raw material usage per unit	2 kg	3 kg
Direct labour hour per unit	4 DLH	3 DLH

The joint fixed overhead for the year is Rs. 84,000.

The company expects short supply of raw materials and labours for the year. The company projects the following position for the year:

Raw materials	9,000 units
Labour	12,000 DLH

- Required:** (a) Overall company break even in units (b) Application of linear programming model for profit maximization [2+4]

Ans: (a) Rs. 3,000 units (b) CM = Rs. 96,000 at 3000 units of Product X

13. 2065 Q.No. 4

An industry is manufacturing two products X and Y. The raw materials, direct labour hours (DLH) and supervision hours of technical manpower are not available sufficiently. The contribution margin and available resources are as follows:

Product	Unit contribution Margin	Raw material per unit	DLH per unit
X	Rs. 4.00	4 kg	2
Y	Rs. 3.60	4 kg	1
Available resource in a year		360,000 kg	120,000

The annual fixed cost of the industry is Rs. 376,000.

- Required:** (i) The most profitable product mix under the existing resource constraints.
 (ii) BEP in units of the industry and each product maintaining the most profitable product mix. [4+2]

Ans: (i) Product X = 30,000 units and Product Y = 60,000 units
 (ii) 100,715 units and Product X = 33,572 units; Product Y = 67,143 units

14. 2064 Q.No. 4

A Manufacturing Company provides Income Statement for its products as follows:

Income Statement

Units produced and sold:	Product		Total 2000
	X '800'	Y '1200'	
Sale revenue	115,000	204,000	319,000
Variable cost:			
Direct materials @ Rs. 50/units	40,000	75,000	115,000
Direct labour @ Rs. 10/hrs	36,000	48,000	84,000
Contribution margin	39,000	81,000	120,000
Product wise fixed cost	11,000	19,000	30,000
	28,000	62,000	90,000

Inseparable fixed cost		24,000
Net income before tax		66,000

- Required: a. Overall BE sales in units. [1]
 b. BE sales in units if the company desired to earn profit of Rs. 40,000 after tax by changing sales mix in one to one basis. Company's tax rate is 50%. [2]
 c. There is possibility of short supply of both raw materials and DLH and it is expected to available as follows:

Raw materials	2,100 units
DLHs	7,500 hours

Use linear programming model for maximizing profit [3]

Ans: (a) 900 units (b) 2,306 units (c) Only 1,680 units of Y should be produced.

15. 2063 Q.No. 3

The Nepal Electronics Ltd; has been producing two leading brands of component, Band and Switch. The cost and other data relating to production have been summarized below:

Particulars Products/Departments	Production Department		Service Department s	
	Band	Switch	Electricity	Stores
Production units	10,000	10,000	-	-
Selling price per unit	Rs. 50	Rs. 60	-	-
Direct costs:				
Direct material cost per unit	Rs. 10	Rs. 15	-	-
Direct labour cost per unit	Rs. 20	Rs. 25	-	-
Total direct cost	Rs. 30	Rs. 40	-	-
Overhead cost as per primary distribution	Rs. 40,000	Rs. 50,000	Rs. 30,000	Rs. 10,000
Service rendered by Service Department:				
Stores	40%	40%	20%	-
Electricity	40%	50%	-	10%

- Required: a. Reapportionment of service departments cost to production by using simultaneous equations.
 b. Sales volume of products for company Break even [4+2]

Ans: (a) Band = Rs. 58,367; Switch = Rs. 71,633 (b) 6,500 units

16. 2062 Q.No. 6

The Income Statement of a manufacturing company and other necessary details have been summarized below:

Products	A	B	Total
Sales unit	10,000	10,000	20,000
Sales revenue (Rs.)	200,000	200,000	400,000
Less: Variable cost of goods sold:			
Direct material @ Rs. 5 per unit	100,000	50,000	150,000
Direct labor @ Rs. 6 per DHL	60,000	120,000	180,000
Total variable cost of goods sold	160,000	170,000	330,000
Contribution margin	40,000	30,000	70,000
Less: Fixed cost			
Departmental fixed cost	15,000	10,000	25,000
Joint fixed cost	—	—	17,000
Total fixed cost			42,000
Net income/BT			28,000

Both raw materials and labours are in short supply and for the next year DM will be available 5,000 units only and DLH of 4,000 DLH.

- Required: a. Over all company BE in units. [2+3+1]
 b. Linear programming model for profit maximization.
 c. Sales volume to earn after tax profit of Rs. 42,000 (tax rate 50%) if the constraints are ignored.
 Ans: (a) 12,000 (b) A = 2,000 units; B = 1,000 units; Rs. 11,000 (c) 36,000 units or Rs. 720,000

17. 2061 (I) Q.No. 3

Rizal and Tashi Ltd., a leading company in canning industry would like to bring out two new products, Apricot Jam, and Peach Jam. The productions would pass through three production processes, namely crushing, cooking and canning processes. The income statement at a tentative sales volume of 10,000 cans of each have been prepared as following:

Products	Apricot Jam	Peach Jam	Total
Sales in units	10,000	10,000	20,000
Sales revenue	Rs.200,000	Rs.250,000	Rs.450,000
Less: Variable cost			
Direct material	40,000	70,000	110,000
Direct labour			
Crushing @ Rs. 3 DLH	60,000	30,000	90,000
Cooking @ Rs. 3 DLH	30,000	30,000	60,000
Canning @ Rs. 3 DLH	30,000	60,000	90,000
Total variable cost of goods sold	160,000	190,000	350,000
Contribution margin	40,000	60,000	100,000
Less: Product fixed cost	25,000	35,000	60,000
Profit/BT	15,000	25,000	40,000

The labour shortage in the market would likely to hit the company also. The company would expect the following supply of specialized man-hours. [3+3]

Crushing	7,000 DLH
Cooking	4,000 DLH
Canning	9,000 DLH

- Required: a. Break even sales volume.
b. Use of linear programming model to maximize profit.

Ans: (a) 12,000 units or Rs. 270,000; (b) Produce 4,000 units of peach jam only

18. 2060 Q.No. 5

The production and sales volume of Nirula's Ice-cream and other information have been presented below:

Production	25,000 litres
Sales	30,000 litres
Selling price	Rs.20 per litre
Variable manufacturing cost	Rs.12 per litre
Fixed manufacturing overhead	Rs.80,000
Variable selling and distribution expenses	Rs.3 per litre
Fixed selling and distribution expenses	Rs.20,000

The company would expect the following sales volume

Excellent sales	50,000 litres	Probability 0.10
Very good sales	40,000 litres	Probability 0.20
Satisfactory sales	30,000 litres	Probability 0.40
Bad sales	20,000 litres	Probability 0.20
Worst sales	10,000 litres	Probability 0.10

- Required: a. Income statement under variable costing. b. Break even sales volume
c. Probability of sales being less than break even sales volume. [3+1+2]

Ans: (a) NP = Rs. 50,000 (b) 20,000 litres and (c) 18.14%

19. 2059 Q.No. 2

The details of the costs of goods sold at various levels of production activities of a manufacturing company have been presented below:

Production in units (100)	Cost of goods sold (in Rs. '000)
100	200
200	300
300	400
400	500
500	600

Selling price per unit will be Rs. 20 per unit.

- Required: a. Segregation of the costs of goods sold by using the least square method.
 b. Sales volume required to earn after tax profit of Rs.150,000 (tax rate 50%)
 c. Co-efficient of determination (r^2).

[2+2+2]

Ans: (a) FC = Rs. 100,000; VC = Rs. 10 per unit (b) Rs. 800,000 (c) 1

20. 2057 Q.No. 2

The Nepal Food Company is a multi-product company producing Product X and Y. The income statement of the company has been projected below:

Product	X	Y	Total
Output (units)	10,000	10,000	20,000
Sales revenue	Rs.300,000	Rs.400,000	Rs.700,000
Less: Variable cost:			
Raw material @ Rs.4 per unit	80,000	160,000	240,000
Direct labour @ Rs.4 DLH	120,000	80,000	200,000
Total variable cost of sales	200,000	240,000	440,000
Contribution margin	100,000	160,000	260,000
Less: Fixed costs:			
Departmental cost	40,000	40,000	80,000
Joint cost			50,000
Total fixed costs			130,000
Net income before tax			130,000

Incessant rain in the country has damaged all food crops and company expects some short supply of raw material. Similarly high demand of skilled manpower in Gulf countries will create constraint on labour for the year. The company projects the following position for the year.

Raw material	50,000 units
Labour	45,000 DLH

- Required: a. Overall company break-even point in units
 b. Use of linear programming model to maximize profit under constraint. [3+3]
 Ans: (a) 10,000 units; X = 5,000 units & Y = 5,000 units; (b) Maximum profit = Rs. 220,000 at X = 10,000 units & Y = 7,500 units

MBA

1. 2064 Q.No. 2 b

BEP Co. produces and sells two products- X and Y. The company provides you the following information:

Cost Per unit:	Product X (Rs.)	Product Y (Rs.)
Direct material	10	15
Direct Labour	6	8
Variable overhead	4	7
Selling price per Unit	30	50
Sales units: Product X	6,000 units	
Product Y	9,000 units	
Fixed overhead: Rs. 1,60,000		

Required (1) Overall Break-even Point in units (2) Sales units for earning profit of Rs. 1,60,000 (3) Profit at given sales mix [3+3+4=10]

2. 2064 Q.No. 7 d

The following information is provided

Fixed cost	Rs. 1,50,000
Percentage of variable costs to sale	66 $\frac{2}{3}$ %
100 % capacity sales	Rs 9,00,000

Required Break-even sales and profit at 80% capacity sales. [5]

3. 2061 (I) Q.No. 2 a

The profitability statement of a company for the previous year was as under selling price per unit Rs. 40.

	Product A	Product B	Total
Sales units	80,000	40,000	1,20,000
Sales revenue	Rs. 6,40,000	Rs. 4,00,000	Rs. 10,40,000
Less: Variable cost	4,00,000	2,40,000	6,40,000
Contribution margin	2,40,000	1,60,000	4,00,000
Less: Separate fixed cost	1,40,000	60,000	2,00,000
Contribution to joint cost	1,00,000	1,00,000	2,00,000
Less: Joint fixed cost			50,000
Net income			1,50,000

Required: a. Overall break-even point in units and break-even for each product.

- b. Sales units product B to keep at original break-even sales units unit if selling price of B decreases by Rs. 1. [6+4]

Ans: (a) 50,000 units, 25,000 units (b) 33,333 units

4. 2061 (I) Q.No.7 c

The sales turnover of last year was Rs. 1,40,000 and profit was Rs. 15,000. It has been expected that the sales in the current year increase by Rs. 20,000 and profit by Rs. 5,000

Required: Break-even point. [5]

Ans: Rs. 80,000

5. 2060 Q.No. 2 a

An undertaking earned after tax profit of Rs. 60,000 at a sales volume of 1,20,000 units. The undertaking paid 50% tax on profit. The unit variable cost is Rs. 12 and fixed cost of the year is Rs. 3,60,000.

Required: (a) Profit before tax (b) Unit sales price (c) BEP sales in Rs. (d) Percent decrease in unit variable cost to earn 10% profit on sales price of 1,20,000 units sales. [2+3+2+3]

Ans: (a) Rs. 1,20,000 (b) R. 16 (c) Rs. 18,00,000 (d) 5%

6. 2060 Q.No.7 a

The CVP equation of a workshop is $80,000 \text{ units} \times \text{SP} = \text{Rs. } 3,00,000 + 80,000 \text{ units} \times \text{Rs. } 5 + \text{Rs. } 1,00,000$.

Required: a. Sales revenue

- b. Percent increase in USP to maintain original BEP volume for the expected increase in variable cost by 10%. [2+3]

Ans: Rs. 8,00,000 (b) 5%

7. 2059 Q.No. 6 a

The given below is the income statement of a mountain bicycle manufacturing firm. The firm has no policy of retaining inventory.

Sales (300 mountain bicycles)		Rs. 15,00,000
Less: Cost of goods sold		
Variable	7,50,000	
Fixed	6,00,000	13,50,000
Earning before tax		1,50,000
Less: Tax at 40%		60,000
Earning after tax		90,000

Required: a. BEP sales in units and rupees

- b. BEP Sales in units and rupees if 25% more fixed cost is required for expanding production capacity by 25%
- c. The expected profit after tax if sales goes up to full capacity after increased in production capacity to 375 units. [10]

Ans: (a) 240 units, Rs. 12,00,000 (b) 300 units, Rs. 15,00,000 (c) Rs. 1,12,500

8. 2058 Q.No. 2 b

Assume that CVP Co. Ltd. produces and sells three products with the following data:

Product	A	B	C
Sales (Rs.)	60,000	120,000	20,000
Variable cost (Rs.)	48,000	60,000	6,000

Overall break-even point in Rs. 500,000

- Required:** a. Joint fixed cost
 b. Break-even sales for each product
 c. Required sales volume for earning a profit of Rs. 53,750 (maintaining the original mix)
 d. New break-even point if fixed cost increases by Rs. 26,875 in original mix.

Ans: (a) Rs. 2,15,000 (b) Rs. 1,50,000; Rs. 3,00,000; Rs. 50,000 (c) Rs. 6,25,000 (d) Rs. 5,62,500

9. 2058 Q.No. 7 d

Cost data computed and collected by a manufacturing company are as below:

Sales 5,000 units @ Rs. 50 per unit; Fixed cost Rs. 60,000; Variable cost per unit Rs. 30; Profit Rs. 40,000

- Required:** Sales volume to earn a profit of (i) 15 per unit and (ii) 30% on sales [2.5×2]

Ans: (i) Rs. 12,000 (ii) Rs. 12,000

10. 2057 Q.No. 2 b

The contribution margin of a company for a period was Rs. 75,000 and profit volume ratio is 0.25. At this level of sales the profit after tax was Rs. 35,000. The tax rate is 30%.

- Required:** a. Sales volume for the period
 b. Fixed cost
 c. Break even point
 d. Sales volume to earn after tax profit of Rs. 52,500 [2+3+2+3]

Ans: (a) Rs. 3,00,000 (b) Rs. 25,000 (c) Rs. 1,00,000 (d) Rs. 4,00,000

11. 2056 Q.No. 2 a

At a sales volume of 20,000 units a manufacturing company would make a profit of Rs. 1,00,000. The selling price and variable cost per unit would be Rs. 20 and Rs. 10 respectively.

- Required:** a. Annual fixed cost
 b. Break even sales volume in units and Rs.
 c. Percentage increase in selling price to earn after tax return of Rs. 1,00,00 (corporate Tax Rate 50%) [2+5+3]

Ans: (a) Rs. 1,00,000 (b) 10,000 units; Rs. 2,00,000 (c) 25%

12. 2056 Q.No. 6 d

By selling 50,000 units a company made a profit of Rs. 80,000 with a safety margin of 20,000 units. The variable cost of the company was Rs. 6 per unit.

- Required:** a. Selling price per unit
 b. BEP sales volume in Rs.
 c. Sales volume needed to earn or profit of Rs. 1,00,000. [1+2+2]

Ans: (a) Rs. 10 (b) Rs. 3,00,000 (c) Rs. 5,50,000

13. 2055 Q.No. 2 b

Data relating to sales mix and other of a multi-product company have been presented below:

Product	A	B	Total
Sales in unit	3,000	2,000	5,000
Sales revenue	30,000	30,000	60,000
Less: Variable cost	15,000	20,000	35,000
Contribution margin	15,000	10,000	25,000
Less: Departmental fixed cost	5,000	5,000	10,000
Margin for joint fixed cost	10,000	5,000	15,000
Less: Joint fixed cost			6,000
Net income before tax			9,000

- Required:** a. Break-even sales volume in units
 b. Percentage change in selling price of product B, when selling price of product A is reduced by 10%.
 c. Break-even sales in units when the sales mix are reversed. [3+3+4]

Ans: (a) 3,200 units (b) 10% (c) 3,200 units

14. 2055 Q.No. 7 d

The after-tax profit of a company with a contribution margin of Rs. 60,000 is Rs. 20,000 and the contribution margin is 40%. The effective tax rate for the company is 50%.

- Required: a. Break-even sales volume in Rs. [3]
 b. Sales volume required earning a profit of Rs. 30,000 (after tax). [2]
 Ans: (a) Rs. 50,000 (b) Rs. 2,00,000

15. 2054 Q.No. 2 a

A company's back showed a total profit of Rs. 20,000 at a sales volume of 20,000 units. The fixed cost of the company was 60,000 and selling price was Rs. 20 per unit.

- Required: a. Variable cost per unit
 b. Break even sales volume in units
 c. Percent reduction in variable cost that would be necessary to obtain 10% profit on selling price. [10]

Ans: (a) Rs. 16 (b) 15,000 units (c) 6.25%

16. 2054 Q.No. 7 c

A company furnishes the following information of its sales and costs:

- (i) Selling price Rs. 20.
 (ii) Normal capacity volume 20,000 units.
 (iii) Fixed manufacturing costs Rs. 120,000.
 (iv) Profit at capacity volume Rs. 40,000.

Required: Sales volume to earn a profit of Rs.16,000.

[5]
 Ans: Rs. 3,40,000

17. 2053 Q.No. 2 a

At a sales volume of 40,000 units a company made a profit of Rs. 40,000 and at this volume the safety margin ratio would be 25%. The selling price of the product was Rs. 10 per unit.

- Required: a. Total fixed costs of the company [3]
 b. Break-even sales volume in Rs. [3]
 c. Sales volume in units to earn after-tax profit Rs. 60,000 (tax rate 20%) [4]

Ans: (a) Rs. 1,20,000 (b) Rs. 3,00,000 (c) 48,750 units

18. 2053 Q.No. 7 b

The cost-volume-profit analysis formula of a manufacturing company showed the following position:

$$20,000 \times SP = Rs. 160,000 + Rs. 10 \times 20,000 + Rs. 40,000.$$

Company expects an increase in variable costs by 20%.

Required: Percentage increase in selling price to keep BE sales volumes at the original figure. [5]

Ans: 10%

19. 2052 Q.No. 2

A manufacturer of special branded goods has recently installed a machine in its production process. The total cost of running the machine, the annual production volumes, unit selling price and total sales revenues are presented below:

Production in unit	10,000
Sales revenue @ Rs. 10 per unit	Rs. 100,000
Less: Variable cost @ Rs. 6 per unit	60,000
Contribution margin	40,000
Less: Fixed in total	50,000
Net income before tax	(10,000)

The company's income statement shows a reported loss of Rs. 10,000 in this installed capacity. If the company ventures to install one more similar machine to overcome this state of affairs the production units and sales revenue will be double and similarly the total fixed costs will also increase by the same amount leaving Rs. 20,000 un-recovered. However, the company can utilize some smaller machines to overcome this difficulty. These machines will produce 1,000 units each at the same variable cost per unit and will have fixed costs of Rs. 2000 for each machine.

Required: Which production volume in units and in Rs. would put the total company at break-even point? (Use of one single formula will be necessary to determine BEP and use of income statement without equations shall not be entertained). [20]

Ans: 15,000 units/ Rs. 1,50,000

20. 2051 Q.No. 2

The installed capacity of a company is 200,000 units per year and the normal capacity is 1,50,000 units per year. Standard variable manufacturing costs are Rs. 10 per unit and fixed factory overhead cost is Rs. 3,00,000 per year. Variable selling and distribution expenses are Rs. 2 per unit and fixed selling and distribution expenses are Rs. 1,56,000 per year. The unit selling price is Rs. 20.

The operating result for the last year are as follows:

Sales	1,20,000 units
Production	1,30,000 units
Beginning inventory	10,000 units

- Required: a. Break even sales volume in Rs.
 b. Sales volume in units to earn a profit of Rs. 40,000
 c. Sales volume in units required to earn a net income of 10% on sales. [20]

Ans: (a) 11,40,000 (b) 62,000 units (c) 76,000 units

21. 2050 Q.No. 2

A multi product company follows standard sales mixed policy for its product. The reported income and expenditure for the last year are presented below:

Product	A	B	Total
Sales in unit	30,000	10,000	40,000
Sales revenue	Rs. 3,00,000	Rs. 2,00,000	Rs. 5,00,000
Less Variable cost	1,50,000	1,00,000	2,50,000
Contribution margin	1,50,000	1,00,000	2,50,000
Less Departmental fixed cost	50,000	50,000	1,00,000
Contribution available for joint fixed cost	1,00,000	50,000	1,50,000
Less: Joint fixed cost			50,000
Net income before tax			1,00,000

- Required: a. Sales volume in units to be at break-even point
 b. Percentages increase in the selling price of product A to keep at original break even sales volume if the selling price of product B decreased by 15%.
 c. Break even sales volume in units, if, standard sales is changed to one unit to one unit. [20]

Ans: (a) 24,000 (b) 10% (c) 20,000 units

22. 2048 Q.No. 5

Balaju Auto Works Company's income statement of the preceding year is presented below:

Sales (100 auto rickshaw)		Rs. 10,00,000
Variable costs	6,00,000	
Fixed costs	2,00,000	8,00,000
Earning before tax		2,00,000
Less: Taxes		1,00,000
Earnings after tax		1,00,000

- Required: a. Breakeven point in sales and units.
 b. How many auto-rickshaws would have to be sold if fixed cost has been increased by Rs. 1,00,000 for increasing capacity by 60 auto-rickshaws? c. At what level of sales will the company be able to maintain its present earning before tax even after expansion? d. Suppose the plants operate at full capacity after the expansion, what profit will be earned? [20]

Ans: (a) 5,00,000 (b) 75 (c) 1,25,000 (d) 1,70,000

23. 2046 Q.No. 7 a

Calculate:

- The amount of fixed expenses
- The number of units to break even
- The number of units to earn a profit of Rs. 40,000

The selling price per unit can be assumed of Rs. 100

The company sold in two successive periods 7,000 units and 9,000 units and has incurred a loss of Rs. 10,000 and earned Rs. 10,000 as profit respectively.

Ans: (i) 80,000 units (ii) 8,000 units (iii) 12,000 units

24. 2045 Q.No. 7 a)

Rungta Party Store expects to earn Rs. 40,000 next year after taxes. Sales will be Rs. 4,00,000. The store is located near the fraternity-row district of State University and sells only kegs of beer for Rs. 20 a keg. The variable cost per keg is Rs. 8. The store experiences a 40 percent tax rate.

- (a) What are the Party Store's fixed costs expected to be next year?
 (b) Calculate the firm's break-even point in both units and rupees.

[10]

Ans: (a) 173,333.33 (b) 2,88,888.88

25. 2042 Q.No. 5 b)

A company produces a single product. Its fixed costs have been budgeted for annual range of operation of 30,000 units to 40,000 units. Net income at this two different points of operation has been presented below:

Units sold	30,000	40,000
Sales revenue	Rs. 3,00,000	Rs. 4,00,000
Cost of goods sold and other expenses	Rs. 3,00,000	Rs. 3,70,000
Profit before tax	Nil	Rs. 30,000

- Required: a. Which sales volume in units will bring the company a profit of Rs. 18,000?
 b. If a reduction of 25% in the original sales (as required in a. is made, by how much the selling price should be increased to put the company in breakeven level? [10]

Ans: (a) 36,000 units (b) 10.33%

26. 2041 Q.No. 2

M/s Thai Food product produces two different types of instant noodles chicken and Mushroom. These two noodles are manufactured in two departments separately. The financial data relating to these product are presented below:

	Chicken noodles	Mushroom noodles	Total
Sales in boxes	20,000	10,000	30,000
Sales revenue (Rs.)	15,00,000	7,50,000	22,50,000
Less: Cost of production:			
Variable cost	9,00,000	3,00,000	12,00,000
Departmental fixed cost	2,00,000	2,50,000	4,50,000
	11,00,000	5,50,000	16,50,000
Contribution to joint fixed cost	4,00,000	2,00,000	6,00,000
Less: Joint cost			1,50,000
Profit before tax			4,50,000

- Required: a. Calculate break even sales volume in units rupee.
 b. A reduction of Rs. 10 per boxes in the selling price of Chicken noodles are likely (because of fair completion with the co-producer) and which mix volume would be desirable to maintain same rupee profit?
 c. The Company visualizes a drastic reduction in the sales of chicken noodles in the coming years and of all the departmental fixed cost except for supervision cost of Rs. 20,000 (in all) cannot be curtailed when the company is forced to do so. If the company is forced to reduce the sales of chicken noodles by 50% by how much the company should increase the selling price of mushroom noodles to keep the company in break-even point. [20]

Ans: (a) Rs. 12,85,714.30 (b) 30,000 boxes (c) Rs. 58

27. 2039 Q.No. 5

The Laxman Company produces a single product. Fixed costs have been budgeted for a normal range of operation of 1,60,000 to 2,00,000 units per year. Seldom there any significant change in inventories.

Net income at the high and low points of the normal range has been budgeted as follows:

	Low	High
Units	160,000	200,000

Sales revenue	Rs. 80,000	Rs. 100,000
Cost of sales	78,000	90,000
Net income	Rs. 2,000	Rs. 10,000

- Required: a. The contribution margin per unit
 b. The fixed cost per year
 c. The break-even point in units
 d. Budgeted profit for 1,80,000 units [20]
 Ans: (a) 0.2 (b) Rs. 30,000 (c) 1,50,000 units (d) Rs. 6,000

28. 2040 Q.No. 5

The following are the operating results of a company for the last two periods: [20]

Period	Total cost	Profit
I	Rs. 4,00,000	Rs. 50,000
II	Rs. 6,00,000	Rs. 1,00,000

- Required: a. P/V ratio
 b. Break-even point
 c. Sales to make an after tax profit of Rs. 1,20,000, tax rate being 60%
 d. Margin of safety if the after tax profit of Rs. 1,20,000 is earned.
 Ans: (a) 0.2 (b) Rs. 2,00,000 (c) Rs. 17,00,000 (d) Rs. 15,00,000

6. BUDGETING FOR PLANNING AND CONTROL

MBS

1. 2071 Q.No. 5

A trading company in a process of preparing the master budget gathered the following information:

Balance Sheet as on 31 st December 2011			
Liabilities / Capital	Rs.	Assets	Rs.
Account payable	160,000	Merchandise inventory	160,000
Share capital	200,000	Account receivable:	
Retained profit	40,000	Nov. sales Rs. 60,000	
		Dec. sales Rs. 160,000	220,000
		Cash	20,000
	400,000		400,000

Actual and forecasted sales

Year	2011		2012			
	November	December	January	February	March	April
Actual (Rs.)	240,000	320,000	-	-	-	-
Forecasted (Rs.)	-	-	320,000	400,000	480,000	560,000

- a. Cash sales are 50% of sales. Credit are 50% of sales and collected equally during following two months of sales.
 b. Gross profit margin on sales is 50% of sales and operating, selling and distribution expenses are 30% of sales.
 c. Most of the purchases are on credit and paid in following month of purchase. Operating, selling and distribution expenses paid in the month of incurrence.
 d. The company has policy of maintaining enough inventory of merchandise to support the following month's sales and minimum cash balance of Rs. 20,000.
 e. The company plans to purchase a machine costing Rs. 160,000 in the month of January.
 f. The company has an agreement with a commercial bank for a loan at 18% per annum in the month of cash deficiency loans are initiated at the beginning of the month in multiple of Rs. 10,000 and payments are to be made with interest at the end of the month.

- Required: a. Cash budget for first quarter (three months) of the year 2012.
 b. Budgeted income statement for the first quarter ending March.
 c. Budgeted Balance Sheet at the end of first quarter ending March. [5+2+3=10]
 Ans: (a) Rs. 24,000; Rs. 22,800; Rs. 27,450 (b) Rs. 235,200 (c) B/S total = Rs. 807,450

2. 2070 Q.No. 5

A trading company provides the following information for the preparation of Master Budgets in the coming period.

Balance Sheet as on 31 st December last year			
Liabilities and Capital	Rs.	Assets	Rs.
Share capital	120,000	Fixed assets	148,000
Account payable	80,000	Merchandise stock	32,000
Retained earning	20,000	Account receivable:	
Divided payable	80,000	November	30,000
(due on February)		December	<u>80,000</u>
		Cash	10,000
	300,000		300,000

	January	February	March	April
Sales (Rs.)	160,000	200,000	240,000	280,000
Merchandise purchase (Rs.)	88,000	108,000	128,000	-

Margin on sales is 50%. Company sale are mostly on credit. 50% sales are collected in the month of sales and remaining 50% are collects on following two months equally. All purchases are paid on the following month of purchase. Selling and distribution, expenses are 20% of sales and payable in the month when incurred. The company purchase computer in the month of January for Rs. 60,000 and furniture in the month of March for Rs. 31,000. The ending inventory of Merchandise on 31st March is Rs. 56,000.

The company has a policy of maintaining a minimum cash balance of Rs. 10,000 and has an agreement with Everest Bank to soft loan at 12% per annum. Bank loan are received and pain in multiple of Rs. 1,000. Amount of interest due are paid for the loan repaid with the repayment amount to nearest of Rs. 100.

Required: ① Cash budget for the period of 3 months January, February and March

② Budgeted income statement ending March

③ Budgeted Balance Sheet as on ending March.

[8+2=10]

Ans: ① Closing cash for March = Rs. 10,900 ② Net income = Rs. 178,780 ③ B/S= Rs. 475,300

3. 2070 Old Q.No. 6

A non-manufacturing provide the following information required for preparing master budget

Balance Sheet as on 31 st December last year			
Liabilities	Rs.	Assets	Rs.
Share capital	150,000	Fixed assets	140,000
Account payable	120,000	Merchandise inventory	60,000
Retained earning	20,000	Account receivable:	
Outstanding selling expenses	40,000	November	40,000
Divided payable	20,000	December	<u>100,000</u>
(due on February)		Cash	10,000
	350,000		350,000

	January	February	March	April
Sales (Rs.)	200,000	200,000	250,000	300,000
Merchandise purchase (Rs.)	120,000	135,000	165,000	-

Gross margin on sales is 40%. All sales are on credit, 50% sales are collected in the month of sales and remaining 50% will be collected on following two months equally. All purchases are paid on the following month of purchase. Selling expenses are 20% of sales and payable in next month. The company purchase furniture in the month of January for Rs. 80,000. Tax payable will be 40%. The ending inventory of merchandize on 31st March

will be Rs. 90,000. The company has a policy of maintaining a minimum cash balance of Rs. 10,000 and has an agreement with Nabil Bank to soft loan at 12% per annum. Bank loan are receivable paid in multiple of Rs. 5,000. Amount of interest due are paid for the loan repaid with the repayment amount nearest of Rs. 100.

Required: ① Cash budget for 1st three months ending March

② Budgeted income statement

③ Budgeted Balance Sheet

[5+2+3]

Ans: ① Ending balance for March Rs. 28,600 ② Net income = Rs. 77,190 ③ B/S = Rs. 513,650

4. 2069 Q.No. 5

The Opening Balance Sheet and other information of a Hardware store in relation to the preparation of a master budget for the first quarter (3 month's ending) are summarized below:

Opening Balance Sheet (as on 1st Baishak)

Liabilities & Capital	Rs.	Assets	Rs.
Capital	180,000	Plant & equipment (net)	200,400
Profit and loss account	71,700	Account receivable	48,000
Account payable	18,300	Inventory	12,600
		Cash	9,000
	270,000		270,000

An additional equipment will be purchased in Baishak for Rs. 11,500 cash and on Jestha for Rs. 8,250 and a dividend of Rs. 4,000 will be paid in Ashad. The store is more concerned with its cash position and keeps Rs. 8,000 cash as minimum balance. It borrows, if needed, in the multiple of 1000 rupees and pays interest at the end of the month at 12% p.a.

Budgeted expenses per month	Rs.	Budgeted sales	Rs.
Wages	7,500	Chaitra	60,000
Advertisement	6,000	Baishak	70,000
Depreciation	2,000	Jestha	85,000
Freight out 6% of sales		Ashadh	90,000
Other expenses 4% of sales		Shrawan	50,000

Sales mix: Cash and credit

Cash sales: 20% and credit sales: 80% (collected next month)

Gross profit margin = 40%

Merchandise paid for:

in the month of purchase 50%

in the month after purchase 50%

Minimum inventory policy: 30% of next month's sales needs.

Required: i. Cash budget

ii. Budgeted income statement

iii. Budgeted balance sheet

[5+2+3=10]

Ans: (i) Planned purchase Rs. 44,700; Rs. 51,900; Rs. 46,800; Closing cash balance = Rs. 8,350; Rs. 8,600; Rs. 8,000 (ii) NI = 26,580 (iii) B/S total = Rs. 303,150

5. 2069 (Old) Q.No. 6

The Balance Sheet of a company as of 31st Chaitra, last year is given below:

Liabilities	Rs.	Assets	Rs.
Share capital of Rs. 100 each	200,000	Finished goods:	
Profit and loss account	20,000	10,000 units	50,000
12% Bank loan	100,000	Raw materials:	
Sundry creditors	30,000	30,000 units	60,000
		Sundry debtors	30,000
		Cash	10,000
		Fixed assets	200,000
	350,000		350,000

The production, sales and raw materials purchases are estimated as under:

Months	Sales units	Sales revenue (Rs.)	Production units	Material purchases units	Material purchase (Rs.)
Baisakh	10,000	100,000	12,000	30,000	60,000
Jestha	12,000	120,000	12,000	37,500	75,000
Ashadh	12,000	120,000	15,000	30,000	60,000
Shrawan	15,000	150,000	15,000	3,000	60,000

Each unit of finished goods needs 2.5 units of raw materials. 50% of the purchases are paid on the month of purchase and remaining on the following month of purchase. 80% of the sales are on cash and the balance on credit, which will realise in the next month of sales. The wages and on the manufacturing expenses per unit is Rs. 2 and Rs. 1 respectively. The operating expense per month is Rs. 10,000. Expenses are payable on the month of their being due. The raw material at the end of Ashadh will be 30,000 units of Rs. 60,000. With an expansion purpose, the company is going to purchase two machines, one in Baisakh, costing Rs. 20,000 and the next in Jestha for Rs. 10,000. The company has a policy of maintaining a minimum cash balance of Rs. 10,000 and it has reached with an agreement with a bank for short term loan at 12% interest.

- Required: ① Cash budget for three months Baisakh, Jestha and Ashadh
 ② Budgeted income statement for three months ended 31st Ashadh
 ③ Budgeted Balance Sheet as on 31st Ashadh.

[5+3+2]

Ans: (i) Closing cash balance Rs. 10,000 each month (ii) NI = Rs. 64,345 (iii) B/S Total Rs. 444,000

6. 2068 Q.No. 5

A company in its process of preparing the budget furnishes the following information:

Balance Sheet on 31st Chaitra, 2065

Liabilities & Capital	Rs.	Assets	Rs.
Shareholder's capital	200,000	Finished goods inventory at Rs. 8 per unit	80,000
Accounts payable	30,000	Raw material at Rs. 2 per unit	60,000
Loan	50,000	Account receivable	30,000
		Cash	10,000
		Fixed assets	100,000
	280,000		280,000

Forecasted sales:

Months	Baisakh	Jestha	Ashadh	Shrawan
Units	10,000	12,000	14,000	16,000

Selling price per unit, Rs. 10

Production Budget:

Months	Baisakh	Jestha	Ashadh
Units	12,000	14,000	16,000

Material Purchase Budget

Months	Baisakh	Jestha	Ashadh
Units	35,000	40,000	45,000

Purchase price per unit, Rs. 2.

Wages and manufacturing expenses are Rs. 3 per unit. Operating expenses are 10% of sales 80% of sales are in cash and balance on credit, credit sales are collected in next month of sales. 50% of purchases are paid in month of purchase and balance in next month. Wages and other expenses are paid in the month when due. Each unit of finished product needs 2.5 units of raw material at a cost of Rs 5.

- Required: 1. Cash budget for three months ending Ashadh.
 2. Budgeted income statement for the period of three months ending Ashadh
 3. Balance sheet at the end of Ashadh

[5+3+2=10]

Ans: (1) Ending cash = Rs. 10,000; Rs. 10,000; Rs. 10,000 (2) Rs. 34,100 (iii) Rs. 356,000

[Assumed minimum cash balance = Rs. 10,000 and borrowing at a cost of 12% for required amount]

7. 2068 (Old) Q.No. 4

A merchandising company provides the following information for preparing master budget for next year to come.

Income statement for the year 2067 are as follows:

Current year's Balance Sheet

Assets		
Cash		Rs. 30,000
Account receivable		20,000
Stock		26,000
Plant		200,000
		276,000
Liabilities		
Account payable		15,000
Share capital		220,000
P/L a/c		41,000
		276,000

Budgeted sales units for the coming year are 10,000 units @ Rs. 300 per unit.

Budgeted purchase units for the next year are also 10,000 units at budgeted purchase price of Rs. 130 per unit.

Quarterly operating expenses including depreciation of Rs. 15,000 are estimated to Rs. 143,750.

Quarters:	1	2	3	4
Quarterly collection from customers (Rs.)	200,000	480,000	960,000	10,20,000
Quarterly payments to suppliers (Rs.)	80,000	208,000	396,500	442,000
Income tax to be paid (Rs.)	—	50,000	50,000	100,000
Dividend to be paid	—	40,000	40,000	80,000
Stock at end to be valued at			Rs. 26,000	
Closing account receivable			Rs. 360,000	
Closing account payable			Rs. 188,500	

Required: (a) Quarterly cash budget (b) Projected income statement (c) Project balance sheet for the next year

[2+2+2=6]

Ans: (a) Cash balance = Rs. 21,250; Rs. 74,500; Rs. 419,250 and Rs. 688,500
(b) Net income = Rs. 925,000 (c) B/S Total = Rs. 12,14,500

8. 2067 (I) Q.No.5

The balance sheet as of December 2009 of an industry is as follows:

Equity	Rs.	Assets	Rs.
Share capital	1,000,000	Fixed assets (Cost Rs. 840,000 depreciates by 20% on original cost)	672,000
Retained earnings	44,500	Inventory:	
9% Debentures	200,000	Raw material: 55,000 kg @ Rs. 3	165,000
Account payable	157,500	Finished goods: 25,000 units @ Rs. 15	375,000
		Account receivable	170,000
		Cash	20,000
	1,402,000		1,402,000

The industry's scheduled sales, production and raw material purchases are as follows:

	Jan	Feb	March
Sales in units	50,000	60,000	60,000
Production in units	55,000	60,000	55,000
Raw material purchases	345,000	345,000	315,000

The industry's raw material ending inventory as of March 31, 2010 will be at the level of 55,000 kg @ Rs. 3 per kg and finished goods ending inventory of the date will be 25,000

units.

The costs for 720,000 units of annual normal capacity output are as follows:

Raw materials cost per unit	Rs. 6
Wages per unit	Rs. 4
Variable manufacturing overhead	Rs. 3
Fixed manufacturing overhead	Rs. 2
Fixed operating costs	Rs. 1

The sales price per unit of output would be Rs. 17.

The raw material supplier's arrangement is to settle half of the raw material cost at the time of purchase and remaining half in the next month.

Unlike that other expenses are required to be settled at the time of expenses.

The sales would be 80% in cash and credit sales equal to 20% would fall due in the next month.

The industry has facility of obtaining borrowing in the multiple of Rs. 5,000 requiring to pay interest @12% p.a. on monthly basis and settle the borrowing in the multiple of Rs. 1,000.

Required: ① Cash receipts and disbursements budget for Jan, Feb and March

② Budgeted income statement for the three months ending March

③ Budgeted Balance Sheet as of March end.

[5+3+2=10]

Note: The question is silent about minimum cash balance so it is assumed nil.
Ans: ① Rs. 4,000; Rs. 43,700; Rs. 182,700 ② Rs. 150,200 ③ B/S Total Rs. 15,56,700

Q. 2067 (II) Q.No.5

A company in a process of preparing the master budget assembled the following information:

Balance Sheet as on 31st Dec., last year

Liabilities	Rs.	Assets	Rs.
Share capital	300,000	Fixed assets	114,000
Retained earnings	28,500	Investment	100,000
Accounts payable	27,500	Inventory:	
		Finished goods 5,000 units	
		@ Rs.10.50	52,500
		Raw materials @Rs.2.50	27,500
Accrued expenses	44,000	Accounts receivable	96,000
		Cash	10,000
Total	400,000	Total	400,000

The sales and purchases are:

Months	Jan	Feb	March	April
Sales revenue (Rs.)	200,000	240,000	280,000	240,000
Purchases (Rs.)	27,500	32,500	32,500	-

The expenses for three months are:

Months	Jan	Feb	March
Direct wages and expenses (Rs.)	88,000	104,000	104,000
Fixed non-manufacturing cost	80,000	80,000	80,000

The selling price per unit is Rs. 20. 20% of sales are on cash and the balance on credit. 50% of credit sales will be collected in the month of sales and remaining in the next month of sale. All purchases are paid on the following month of purchase. Time lag in wages and expenses are 1/2 month. Non-manufacturing overheads are payable on the month of their being due.

The company has been thinking to buy a machine in the month of January at a cost of Rs. 50,000 and issue shares of Rs. 50,000 in February. The desired ending balance of finished product at the end of each month will be 50% of the following month sale and minimum cash balance of Rs. 10,000. The company has entered into an agreement with a bank to meet the deficiency of cash at an agreed interest rate of 12% per annum. The interest is paid only at the time of payable for the amount of loan repaid.

- Required: ① Production Budget, by month for 3 months ending March
 ② Cash Budget, by month for 3 months ending March
 ③ Budgeted Income Statement for 3 months ending March

[3+5+2=10]

Ans: (1) Rs. 37,000 (2) Rs. 10,000; Rs. 50,410; Rs. 97,910 (3) Rs. 101,410

10. 2067 (II) (Old) Q.No.4

A Trading Company in its process of preparing a master budget has gathered the following information.

Balance Sheet as on 1st January 2011

Liabilities / equities	Rs.	Assets	Rs.
Share capital	500,000	Fixed assets	100,000
Accounts payable (50% of purchase in December)	200,000	Merchandise inventory	200,000
		Accounts receivables (60% of December sales)	360,000
		Cash at bank	40,000
Total	700,000	Total	700,000
Forecasted sales:			
January			Rs. 400,000
February			Rs. 600,000
March			Rs. 600,000
April			Rs. 400,000

The gross profit margin on sales will be 50% of sales. Office, selling and distribution expenses will be 30% of sales revenue of the month. Sales are 50% on cash basis and rest credit. The credit will be collected in following month of sale. Merchandise purchase will be paid in the following month of purchase. All other expenses will be paid when they will incur. The company planned to purchase additional fixed assets in the month of January costing Rs. 150,000.

The minimum cash balance required for every month will be Rs. 50,000. The company has agreement with a commercial bank for a temporary loan to meet cash deficiency of any month at an interest rate of 18% per annum payable for the amount of loan repaid. Borrowing and payment will be in a multiple of Rs. 10,000.

- Required: ① Cash collection and disbursement budget for three month ending March.
 ② Budgeted Income Statement for three month ending March.
 ③ Budgeted balance Sheet at the end of March.

[3+1+2=6]

Ans: (1) Rs. 130,000; Rs. 150,000; Rs. 270,000 (2) Rs. 320,000 (3) Rs. 10,20,000.

11. 2066 Q.No.5

A Ltd., Company provides year end Balance Sheet and additional information as follows:

Balance Sheet as on March 31, Last year 20XX

	Rs.		Rs.
Account payable	150,000	Cash	40,000
Short term note payable	32,000	Account receivable	185,000
10% long term loan	180,000	Fixed assets	390,000
Common stock	245,000	Inventory	120,000
Retained earnings	128,000		
Total	735,000	Total	735,000

Additional information:

	April	May	June
Sales	Rs. 262,500	Rs. 275,625	Rs. 289,425
Purchase	Rs. 163,800	Rs. 172,000	Rs. 180,600
Inventory at end of			Rs. 138,000
Selling expenses	Rs. 36,300	Rs. 38,450	Rs. 40,170
General expenses	Rs. 8,000	Rs. 8,000	Rs. 8,500
Depreciation	Rs. 5,000	Rs. 5,000	Rs. 5,000

Interest on long term loan will be paid each month.

Sales are expected to be 40% for cash and 60% on credit and receivables are collected in

full in the month following the sales. All purchases are on credit and paid in the next month. Minimum of Rs. 40,000 cash balance should be maintained at the end of each month and if necessary borrowing will be made that need to pay 1% interest at the end of each month. Assume borrowing is made at the beginning of the month of repayment at the end of the month. Borrowing is made in multiple of Rs. 6,000 and repayment in multiple of Rs. 2,000. Excess cash in any month will be utilized to repay short term loan with interest. Assume all expenses - selling and general expenses are paid at the end of each month. Fixed assets costing Rs. 60,000 will be purchased in April by cash down. Dividend of Rs. 73,500 and income tax at the rate of 30% will be paid at the end of June.

- Required: (1) Cash budget for three months ending June
 (2) Expected income statement for third month ending June
 (3) Budgeted balance sheet at June 30. [4 + 3 + 3 = 10]

Ans: (1) Cash balance; A = Rs. 41,880; M = Rs. 97,880 and J = Rs. 44,382
 (2) NI = Rs. 118,937 (3) B/S = Rs. 791,037

12. 2066 Partial Q.No. 8

The Balance Sheet as of Chaitra 30, 2065 and the approved production and manufacturing and non-manufacturing overheads budgets of a factory for a specific period of the year 2066 are as follows:

Balance Sheet as of Chaitra 30, 2065

Equities	Amount Rs.	Assets	Amount Rs.
Owners' equity	6,000,000	Land & building	3,000,000
Bank loan	120,000	Plant & machinery	2,400,000
Accounts payable	300,000	Investment	100,000
Revenue profit	197,000	Inventory:	
		Raw materials 120,000 kg	300,000
		@ Rs.2.50 Finished goods	600,000
		50,000 units @ Rs.12	
		Account receivables	192,000
		Cash	25,000
Total	6,617,000	Total	6,617,000

Production Budget

Month	Chaitra	Baisakh	Jestha	Ashad	Shrawan
Sales	60,000	50,000	60,000	60,000	70,000
Add: Ending inventory	50,000	60,000	60,000	70,000	70,000
	110,000	110,000	120,000	130,000	140,000
Less: Beginning inventory	60,000	50,000	60,000	60,000	70,000
Production in units	50,000	60,000	60,000	70,000	70,000
Material consumption	100,000 kg	120,000 kg	120,000 kg	140,000 kg	140,000 kg
Material purchases at Rs. 2.5 per kg	Rs. 300,000	Rs. 300,000	Rs. 350,000	Rs. 350,000	

Manufacturing and non-manufacturing overheads budget:

	Baisakh Rs.	Jestha Rs.	Ashad Rs.
Variable manufacturing overheads at Rs. 3 per unit	180,000	180,000	210,000
Depreciation	40,000	40,000	40,000
Administration and selling & distribution overheads	150,000	150,000	150,000

The production of each unit would require 2 kg of raw materials. The market price of raw material is Rs. 2.50 per kg. The raw materials purchases would be on credit which would be due in the next month. The labour cost (direct) due in the month of purchase would be Rs. 4 per unit. The factory would maintain sufficient raw materials inventory to meet the next month's raw material consumption. The variable manufacturing overheads and administrative and selling and distribution overheads would be due in the same month.