



## Cost and Management Accounting

Q.1 Macchiato (Private) Limited (MPL) is planning to launch a new business of manufacturing carpets and rugs. The extracts from the projected statement of profit or loss of the new business are given below:

	Rs. in '000
Sales	500,000
Cost of goods sold	(360,000)
Gross profit	140,000
Operating expenses	(90,000)
Profit before taxation	50,000
Taxation @ 35%	(17,500)
Profit after taxation	32,500

Selling prices of carpets and rugs would be Rs. 24,000 and Rs. 4,000 per unit with contribution margin of 25% and 20% respectively. Carpets and rugs would be sold in the ratio of 1:4.

**Required:**

- (a) Compute the sales revenue at break-even and the margin of safety in units. (07)
- (b) Determine the number of carpets and rugs that must be sold if MPL wishes to maintain profit after taxation equivalent to 10% of sales. (05)

Q.2 Latte Limited (LL) is considering to accept a five-year proposal from Mocha Limited (ML) for supply of a product namely K44. ML would use K44 as a raw material for its main product. Details of the proposal and related matters are summarized as follows:

- (i) Initial investment in the specialized machinery is estimated at Rs. 60 million. At the beginning of year 4, LL would require a major overhauling on this machinery amounting to Rs. 10 million. The machinery can be disposed of at 80% of written down value at the end of project.
- (ii) In year 1, LL would supply 18,000 units of K44 to ML at Rs. 5,000 per unit. The supply would increase by 5% per annum from year 2 onward.
- (iii) Variable cost is estimated at Rs. 4,000 per unit for year 1. Fixed cost associated with the proposal (other than depreciation) is expected to be Rs. 250,000 per month, out of which Rs. 50,000 would be allocated overheads.
- (iv) Impact of inflation on revenues as well as all costs would be 7%.
- (v) Tax rate would be applicable at 30% and tax would be payable in the year in which liability would arise. Tax depreciation on machinery would be allowed at the rate of 25% under reducing balance method.
- (vi) The cost of capital of LL is 15%.

Assume that except stated otherwise, all cash flows would arise at the end of year.

**Required:**

- (a) Using net present value method, advise whether LL should accept the proposal. (11)
- (b) Determine the minimum discount rate at which the proposal would be acceptable to LL. (03)

Q.3 Frappe Limited (FL) manufactures and sells a single product Sigma. Following information is available:

- During the year ended 31 December 2018, FL sold 5,500 units at Rs. 25,000 per unit.
- Details of opening and closing work in process and finished goods are as follows:

	Number of units	Percentage of completion	
		Direct material	Conversion costs
<b>Work in process:</b>			
Opening	400	100%	60%
Closing	800	100%	40%
<b>Finished goods:</b>			
Opening	600	-	-
Closing	900	-	-

- The work in process account had been debited during the year with the following costs:

	Rs. in '000
Direct material	82,350
Conversion costs (including fixed overheads of Rs. 16.762 million)	44,217

- Variable operating costs amounted to Rs. 500 per unit whereas fixed operating costs for the year were Rs. 7,500,000.
- Effective from 1 January 2018, direct material price and conversion costs were increased by 5% and 10% respectively.
- FL uses FIFO method for valuation of its inventories.

**Required:**

- (a) Prepare statements of equivalent units and cost per equivalent unit. (04)
- (b) Prepare profit statements on the basis of:
  - (i) marginal costing (08)
  - (ii) absorption costing (07)

*(Round off all figures to the nearest rupee amount)*

Q.4 Following information pertains to Espresso Limited (EL), engaged in manufacturing of a product 'Rita':

- (i) Extracted from last year's records:
  - EL budgeted to produce 16,000 units of Rita by utilizing 32,000 budgeted machine hours.
  - The absorption rate for fixed overheads was determined at Rs. 1,250 per machine hour.
  - Actual fixed overheads incurred were Rs. 41.20 million that included depreciation of Rs. 12.50 million.
  - The actual production was 17,000 units by utilizing 32,400 machine hours.
- (ii) EL absorbs fixed overheads by using pre-determined machine hour rate.
- (iii) For the next year, the management of EL has made the following projections:
  - Production and demand for Rita is expected to increase by 15%. EL is intending to buy a new automated machinery costing Rs. 7.3 million to increase the actual efficiency by 25%. The new machinery would have a useful life of 8 years with residual value of Rs. 1 million.
  - Existing fixed overheads other than depreciation are expected to increase by 10%. Additional supervision cost would need to be incurred at Rs. 70,000 per month.

**Required:**

- (a) Compute under/over absorption of fixed overheads for the last year and analyse it into fixed overhead expenditure, efficiency and capacity variances. (06)
- (b) Determine fixed overheads absorption rate for the next year. (04)

Q.5 Americano Limited (AL) is engaged in the assembling and marketing of three products, Alpha, Beta and Gamma. AL is in the process of preparation of product-wise projected statement of contribution margin for the next financial year commencing from 1 January 2020. Following information in this regard is available:

- (i) Total sales of AL for the year ending 31 December 2019 are estimated to be Rs. 28 million. The current sales price and ratio of sales for each of three products are given below:

	Alpha	Beta	Gamma
Sale price per unit (Rs.)	8,000	12,000	10,000
Ratio of quantities sold	4	1	2

With effect from 1 January 2020, AL is intending to increase the selling prices by 10%. The demand would decline by 2% due to increase in sale prices.

- (ii) The details of components that are used in each product are as follows:

Description	Components		
	A	B	C
	----- Units -----		
Alpha	4	2	5
Beta	5	4	6
Gamma	4	3	4
	----- Rs. -----		
Purchase price per component	45	60	30

The suppliers have informed AL that prices of components would increase by 15% with effect from 1 April 2020.

- (iii) All products pass through assembling and finishing departments. Details of labour costs at each department are as follows:

Description	Assembling	Finishing
	Direct labour (Hours)	
Alpha	10	15
Beta	12	20
Gamma	10	18
	----- Rs. -----	
Rate per hour	50	40

- (iv) Factory overheads are estimated at 60% of direct labour cost. 40% of factory overheads are fixed.

**Required:**

Prepare a product-wise statement showing projected contribution margin for the year ending 31 December 2020.

(16)

Q.6 Reporting perspective is an integral part of IFAC Sustainability Framework. It includes key considerations on how professional accountants can help improving the usefulness and relevance of their organization’s external communications.

**Required:**

State any **two** key considerations for professional accountants as mentioned in each of the following sections of reporting perspective:

- (a) Developing an organizational reporting strategy (02)
- (b) Determining materiality (02)
- (c) External review and assurance of sustainability disclosures (02)

Q.7 (a) Explain briefly what is meant by the term ‘inventory control’. Suggest and explain the method of stock valuation which should be used in times of fluctuating prices. **(05)**

(b) Cappuccino Limited (CL), incorporated in January 2018, is engaged in manufacturing and marketing of two types of products, S1 and S2. Due to strict quality standards at CL, the ratio of damaged goods is high. Damaged units of S1 can only be identified at 100% completion whereas damaged units of S2 can be identified at 60% completion. Damaged units of S1 and S2 can be sold at 80% and 50% of market prices respectively.

CL’s production department believes that damaged units can be sold at full market price after incurring per unit rectification costs of Rs. 150 and Rs. 450 on S1 and S2 respectively.

**Additional information:**

- Following information has been extracted from CL’s latest records:

	S1	S2
	----- Units -----	
No. of units sold	347,000	218,000
Closing inventory	47,000	34,000
	----- Rs. in '000 -----	
Sales	492,800	463,760
Cost of goods manufactured	431,430	349,370
Closing inventory	(51,465)	(48,287)
Cost of goods sold	379,965	301,083
Gross profit	<b>112,835</b>	<b>162,677</b>

- Closing inventory includes units of S1 and S2 damaged during the year i.e. 15,000 and 22,500 units respectively.
- Fixed costs are incurred at the beginning of period and variable costs are incurred throughout the manufacturing process.
- Cost of goods manufactured includes fixed cost of Rs. 80 million which is allocated on the basis of total units produced.
- Selling expenses during the period was 1% of sales.

**Required:**

- (i) Advise CL whether it should sell damaged units of each product with or without further processing. **(12)**
- (ii) Determine value of damaged units of S1 and S2 included in the closing inventories, under each of the following situations:
  - If CL opts for further processing
  - If CL does not opt for further processing **(06)**

**(THE END)**