



## Cost and Management Accounting

### Instructions to examinees:

- (i) Answer all **SIX** questions.  
(ii) Answer in **black** pen only.

Q.1 Smart Fit (SF) is engaged in manufacturing and selling of product X75. It offers two variants of X75 that are 'Standard' and 'Premium'.

The management is in the process of preparing its budgeted profit or loss statement for the year ending 31 August 2021. Following information are available in this respect:

### **Information for the year ended 31 August 2020**

- (i) Extracts from profit or loss statement:

	<b>Rs. in million</b>
Sales	5,250
Cost of goods sold:	
Material	(1,584)
Labour	(540)
Manufacturing overheads	(440)
Gross profit	2,686
Selling and administration expenses	(426)
Profit before tax	<b>2,260</b>

- (ii) During the year, SF operated at 75% of capacity. It manufactured and sold 900,000 and 600,000 standard and premium units respectively.
- (iii) The retail price of premium unit is set at two times of retail price of standard unit.
- (iv) 1.6 kg of material is required for each standard unit whereas 2 kg of material is required for each premium unit.
- (v) Labour manufactures three standard units per hour. Each premium unit takes 50% more labour time than standard unit.
- (vi) 25% of total manufacturing overheads are fixed. Variable manufacturing overheads per premium unit are 1.25 times of a standard unit.
- (vii) All selling and administration expenses are fixed.
- (viii) There are no closing stocks of raw material and finished goods.

### **Information and projections for the budget year ending 31 August 2021**

- (i) Retail price of standard and premium units would be increased by 10% and 15% respectively. It is expected that existing demand for standard and premium units would not be affected by price increase. In addition, SF has entered into a contract with a new foreign customer for supply of 450,000 premium units at a discount of 20% of new retail price.
- (ii) Any constraint due to production capacity would be met by reducing the existing production of standard units. However, any shortfall in production of standard units would be met by purchasing it from the market at a price of Rs. 2,400 per unit.
- (iii) Material price would increase by 5% with effect from 1 January 2021. The material would be purchased evenly during the year.
- (iv) Labour, manufacturing overheads and selling and administration expenses would be subject to inflation of 10% per annum.

**Required:**

Prepare a budgeted profit or loss statement for the year ending 31 August 2021. (19)

Q.2 Pizza Inc. has pizza outlets in all major shopping malls in the city. It prepares and sells approximately 4,850 standard pizzas per week. A premium quality imported cheese (cheese), the key ingredient for pizza preparation is purchased from a supplier at Rs. 1,200 per kg. Other costs related to cheese are as follows:

	Rupees
Administration cost per order	150,000
Transportation cost per order	22,500
Quality inspection cost per order	20,000
Refrigeration cost per kg	250
Warehouse cost per annum	4,420,000
Cost of financing the stock per month	1.5%

**Other information:**

- (i) The company places orders on the basis of Economic Order Quantity (EOQ).
- (ii) Each standard size pizza requires 0.25 kg of cheese. However, 3% of cheese is lost in refrigeration.
- (iii) 80% of administration cost and 50% of warehouse cost are variable. All other costs are fixed.
- (iv) The company operates throughout the year which is 52 weeks.

The supplier has offered to reduce 5% price if the company agrees to double the size of order for the coming year. However, it would have following implications:

- (i) 4% of cheese would be lost in refrigeration.
- (ii) Variable cost of warehouse, transportation cost and inspection cost would increase by 50%.
- (iii) Refrigeration cost would increase by 75%.

**Required:**

Advise whether Pizza Inc. should accept offer of the supplier. (13)

Q.3 Francisco Limited (FL) is a manufacturer of product Z and has annual operational capacity of 82,500 machine hours. FL uses **absorption costing**.

Below is a summary of FL's profit or loss statement for the years ended 31 August 2019 and 2020:

	31 August 2020		31 August 2019	
	Units	Rs. in '000	Units	Rs. in '000
Sales	9,950	149,250	10,500	155,500
Opening inventory – finished goods	3,500	31,000	2,500	20,000
Cost of production	10,450	94,050	11,500	97,750
Closing inventory – finished goods	4,000	(36,000)	3,500	(31,000)
Cost of goods sold		(89,050)		(86,750)
Gross profit		60,200		68,750
(Under)/over absorbed production overheads		(400)		650
Selling and administration cost		(20,900)		(22,475)
Net profit		<b>38,900</b>		<b>46,925</b>

In both years, the actual and standard machine usage per unit are 6 hours. However, the standard machine usage was 80% and 82% of the operational capacity in 2019 and 2020 respectively.

Fixed overhead absorption rate of Rs. 700 per machine hour was applied in 2019. FL revises its fixed overhead absorption rate for each year on the basis of prior year's actual fixed overhead expenditure.

**Required:**

- (a) Calculate budgeted and actual fixed overheads for 2019 and 2020. (04)
- (b) Prepare profit or loss statement for the year ended 31 August 2020, using marginal costing. (05)
- (c) Reconcile the actual profits under marginal and absorption costing for the year ended 31 August 2020. (02)

Q.4 Siyab Limited (SL) is involved in manufacturing and exporting of products BA, CA and DA. Keeping in view the continuous operating losses in product BA, the management is considering to discontinue the production of BA.

Summarised operating results of BA for the year 2019 are as follows:

Units sold (2018: 156,250 units)	150,000
	<b>Rs. in '000</b>
Sales revenue	30,000
Raw material consumption	(12,000)
Labour	(6,000)
Variable manufacturing overheads	(3,000)
Fixed manufacturing overheads:	
Directly attributable	(2,800)
Allocated (30% of total)	(750)
Selling expenses (2018: Rs. 8,050,000)	(7,800)
Operating loss	<b>(2,350)</b>

Chief Financial Officer (CFO) is of the view that discontinuance of BA would save all manufacturing and selling expenses except allocated fixed manufacturing overheads. It is estimated that total allocated fixed manufacturing overheads will be reduced by 10%.

In a recent management meeting, SL’s sales director does not agree with the suggestion to discontinue this product. She is of the view that BA is in high demand in the local market and the management should consider to launch this product in the local market through an online marketplace, Jamal Express (JE). She argues that this will not only minimize the selling expenses but also allow SL to reach maximum customers.

Following information have been available in respect of launching an online store of BA at JE:

- (i) Existing production capacity of BA is 172,000 units.
- (ii) Existing demand of BA in the online market is sufficient to boost sales by 10% from the previous year. However, for achieving this target level of sales, a digital marketing service provider would be hired at an annual cost of Rs. 800,000.
- (iii) BA would be sold at Rs. 180 per unit.
- (iv) SL would have to pay an annual subscription fee of Rs. 110,000 to JE to operate as a seller. In addition, JE would charge 2% sales commission.
- (v) JE also provides an additional facility of handling delivery and sales return to its clients. This service can be availed by paying either an annual lump sum fee of Rs. 1,500,000 or an additional commission of 5% of the selling price. If this service is availed, entire fixed selling expenses will be saved.
- (vi) Fixed and variable selling expenses pertaining to BA would be reduced by 10% and 80% respectively.
- (vii) Additional support staff would be hired at a cost of Rs 200,000 per month. This additional hiring cost can be reduced to 80% if existing staff is given additional responsibilities with overtime payment which would increase variable selling expense by 10%.

**Required:**

Evaluate the suggestions of CFO and sales director and recommend the best course of action to the management. (17)

Q.5 Siyara Pakistan Limited (SPL) manufactures and sells a single product Zeta. The product passes through two processes before transferring to warehouse for sale. Following data pertains to Process I for the month of August 2020:

**Standard cost information:**

- (i) Direct material per unit – 1 kg at Rs. 75.
- (ii) Direct labour per unit – 1.2 hours at Rs. 40 per hour.
- (iii) Factory overheads per unit – 150% of direct labour. Factory overheads are budgeted on the basis of 250,000 direct labour hours. 40% of factory overheads are variable.

**Actual data for the month of August 2020:**

	<b>Rs. in '000</b>
Direct material issued: Rs. 75 per kg	6,750
Rs. 85 per kg	11,475
Direct labour paid for 235,000 hours	9,870
Variable factory overheads	6,345
Fixed factory overheads	11,250
	<b>45,690</b>

- (i) Direct material is added at the beginning of the process. Conversion costs are incurred evenly throughout the process. Losses up to 7% of the input are considered as normal. However, losses are determined at the time of inspection which takes place when product is 75% complete.
- (ii) During the month, 225,000 kg of direct material was issued to Process I and 200,000 units were transferred to Process II.
- (iii) Opening and closing work in processes were 25,000 units (80% completed) and 35,000 units (60% completed) respectively.
- (iv) 10% of direct labour hours were idle due to machine break-down but fully paid.
- (v) SL uses FIFO method for inventory valuation.

**Required:**

(a) Calculate the following variances for the month of August 2020:

- Material price and usage
- Labour rate, efficiency and idle
- Variable factory overhead expenditure and efficiency
- Fixed factory overhead expenditure and volume

(17)

(b) Reconcile the budgeted expenditure with actual expenditure for the month of August 2020 by using relevant variances calculated in part (a). (03)

- Q.6 Aluminium Limited (AL) is engaged in the manufacture of product GH which requires one unit of a single raw material PQR. The manufacturing of PQR is currently outsourced under a contract which is expiring shortly.

The management of AL has decided to setup an in-house manufacturing facility for production of PQR instead of renewing the existing contract of supply on its expiry. In this respect, following two proposals **at current prices** have been forwarded for evaluation:

	<b>Proposal 1</b>	<b>Proposal 2</b>
Purchase cost (including setup cost)	Rs. 3,500,000	Rs. 5,000,000
Useful life ( <b>Note</b> )	3 years	5 years
Residual value ( <b>Note</b> )	Nil	Rs. 1,000,000
Annual production capacity	10,000 units	9,000 units
Plant operation cost	Rs. 90,000 per month	Rs. 70,000 per month
Annual maintenance cost	Rs. 1,380,000	Rs. 1,200,000

**Note:** Under proposal 1, on carrying out a major overhaul at a cost of Rs. 1,300,000 (**at current price**) at the end of year 2, useful life and residual value of the plant would increase to 5 years and Rs. 500,000 (**at current price**) respectively.

**Other information:**

- (i) Existing demand of GH is 7,500 units which is expected to increase by 5% every year.
- (ii) In case of any shortage of PQR, it would be purchased from the market at a price of Rs. 550 per unit **at current price**.
- (iii) Variable cost of production **at current price** under proposal 1 and proposal 2 are Rs. 400 per unit and Rs. 380 per unit respectively.
- (iv) Depreciation would be charged on a straight line basis. Accounting depreciation is assumed to be the same as tax depreciation.
- (v) Inflation rate is estimated to be 6% per annum which is applicable from year 1.
- (vi) Applicable tax rate is 30% and is payable in the year in which liability arises.
- (vii) AL's cost of capital is 14%.

**Assume that except stated otherwise, all cash flows arise at year-end.**

**Required:**

By using net present value (NPV) method, recommend the best course of action to the management of AL.

**(20)**

**(THE END)**