



# Management Accounting

Mock Exam Summer-2015  
Module : F

(Additional reading time - 15 minutes)

May 21, 2015  
100 marks – 3 hours

**Q.1** ABC Company has received an enquiry from a customer for the supply of 500 units of a new product, AK 100. Negotiations on the final price to charge the customer are in progress and the sales manager has asked you to supply relevant cost information. The following information is available:

- (i) Each unit of product AK 100 requires the following raw materials:  
Raw material type  
X        4 kg  
Y        6 kg
- (ii) The company has 5,000 kg of material X currently in stock. This was purchased last year at a cost of Rs.7 per kg. If not used to make product AK 100, this stock of X could either be sold for Rs.7.50 per kg or converted at a cost of Rs.1.50 per kg, so that it could be used as a substitute for another raw material, material Z, which the company requires for other production. The current purchase price per kilogram for materials is Rs.9.50 for material Z and Rs.8.25 per kg for material X.
- (iii) There are 10,000 kilograms of raw material Y in inventory, valued on a FIFO basis at a total cost of Rs.142,750. Of this current inventory, 3,000 kilograms were purchased six months ago at a cost of Rs.13.75 per kg. The rest of the inventory was purchased last month. Material Y is used regularly in normal production work. Since the last purchase of material Y a month ago, the company has been advised by the supplier that the price per kilogram has been increased by 4%.
- (iv) Each unit of product AK 100 requires the following number of labour hours in its manufacture:  
Type of labour:  
Skilled:    5 hours    @ Rs.8 per hour  
Unskilled: 3 hours    @ Rs.6 per hour
- (v) There is a shortage of skilled labour, so that if production of AK 100 goes ahead it will be necessary to transfer skilled workers from other work to undertake it. The other work on which skilled workers are engaged at present is the manufacture of product B16. The selling price and variable cost information for B16 are as follows:

	Rs./unit	Rs./unit
Selling price		100
Less: variable costs of production		
Skilled labour (3 hours)	24	
Other variable costs	31	
		<u>55</u>
		45

- (vi) The company has a surplus of unskilled workers who are paid a fixed wage for a 37-hour week. It is estimated that there are 900 hours of unused unskilled labour time available during the period of the contract. The balance of the unskilled labour requirements could be met by working overtime, which is paid at time and a half.
- (vii) The company absorbs production overheads by a machine hour rate. This absorption rate is Rs.22.50 per hour, of which Rs.8.75 is for variable overheads and the balance is for fixed overheads. If production of product AK 100 is undertaken, it is estimated that an extra Rs.4,000 will be spent on fixed costs. Spare machining capacity is available and each unit of AK 100 will require two hours of machining time in its manufacture using the existing equipment. In addition, special finishing machines will be required for two weeks to complete the AK 100. These machines will be hired at a cost of Rs.2,650 per week, and there will be no overhead costs associated with their use.
- (viii) Cash spending of Rs.3,250 has been incurred already on development work for the production of AK 100. It is estimated that before production of the AK 100 begins, another Rs.1,750 will have to be spent on development,

making a total development cost of Rs.5,000.

**Required**

Calculate the cost of 500 units of AK 100 using relevant cost approach. (20)

**Q.2** Chenab Limited (CL) is engaged in the business of supplying plastic chairs to schools and hospitals in Karachi. Following data has been extracted from CL’s business plan:

Actual	----- Forecast -----				
	Aug. 2013	Sep. 2013	Oct. 2013	Nov. 2013	Dec. 2013
Purchases (Rs. ‘000)	600	520	680	640	560

Additional information:

- (i) All the above amounts are exclusive of sales tax. The company uses Just-in-time inventory system and therefore has a negligible stock at any point of time.
- (ii) Sales tax is charged at the rate of 17% and is payable on the 15th day of the next month along with the sales tax return. Refunds, if any, are received one month after submission of the sales tax return.
- (iii) 70% of the sales are made to hospitals on two months credit whereas the rest of the sales are made to schools on credit of one month. All debtors are expected to promptly settle their debts. CL earns a uniform gross profit of 20 percent on sales.
- (iv) 10% of the creditors are paid in the month of purchase, 60% are paid in the first month subsequent to purchase and the remaining 30% are paid in the second month following the purchase.
- (v) Monthly salaries and wages amount to Rs. 95,000 and are paid in the month in which they are incurred.
- (vi) A monthly rent of Rs. 50,000 is paid in advance on quarterly basis.
- (vii) Selling expenses for September are estimated at Rs. 40,000. 35% of selling expenses are fixed whereas remaining amount varies with the variation in sales. Selling expenses are paid in the month in which they are incurred.
- (viii) Other overhead expenses are estimated at 6% of the sales for the previous month.
- (ix) Cash and bank balances as at 30 September 2013 are estimated to be Rs. 1,000,000.

**Required:**

Prepare a month-wise cash budget for the quarter ending 31 December 2013. (16)

**Q.3** A project has the following time schedule:

Activity	Time in months
1 – 2	2
1 – 3	2
1 – 4	1
2 – 5	4
3 – 6	8
3 – 7	5
4 – 6	3
5 – 8	1
6 – 9	5
7 – 8	4
8 – 9	3

**Required:**

- (a) Compute the total float for each activity. (06)
- (b) Find out the critical path and its duration. (04)

- Q.4 (a)** Rozgar & Co. makes two type of Tablet Computer Xeno (X) and Yong (Y). There are three main stages of production: the build stage, the program stage and the test stage .Each of these stages requires the use of skilled labour which, due to a huge increase in demand for Tablet Computer over recent months, is now short in supply .The following information is available for two products:

	<b>Xeno (X)</b>	<b>Yong (Y)</b>
	<b>(Rs.)</b>	<b>(Rs.)</b>
Sale price per unit	2,000	2,500
Direct Variable cost per unit	1,500	1,800
Other variable cost per unit	470	660
Fixed cost per unit	20	30

  

<b>Stage</b>	<b>Xeno (X)</b>	<b>Yong (Y)</b>
	<b>Minutes per unit</b>	<b>Minutes per unit</b>
Build (Rs.10 per hour)	24	20
Program (Rs.16 per hour)	16	14
Test (Rs.12 per hour)	10	4

Rozgar & Co. is preparing its detailed production plans for the next quarter. During this period it expects skilled labour available will be 30,000 hours (1,800,000 minutes) for build stage, 28,000 hours for (1,680,000 minutes) for the program stage and 12,000 hours (720,000 minutes) for test stage. The maximum demand for X and Y for the quarter is expected to be 85,000 units and 66,000 units respectively.

Due to rapid technological change, the company holds no stock of finished goods.

**Required:**

Draw the relevant constraints on a graph and determine the production mix which would maximize the Quarterly contribution. **(12)**

- Q.4 (b)** Block & Co operates an absorption costing system and sells three types of product – Commodity 1, Commodity 2 and Commodity 3. Like other competitors operating in the same market, Block Co is struggling to maintain revenues and profits in face of the economic recession which has engulfed the country over the last two years. Sales prices fluctuate in the market in which Block Co. operates. Consequently, at the beginning of each quarter, a market specialist, who works on a consultancy basis for Block Co, sets a budgeted sales price for each product for the quarter, based on his expectations of the market. This then becomes the ‘standard selling price’ for the quarter. The sales department itself is run by the company’s sales manager, who negotiates the actual sales prices with customers. The following budgeted figures are available for the quarter ended 31 May 2013.

<b>Product</b>	<b>Budgeted production and sales units</b>	<b>Standard selling price per unit</b>	<b>Standard variable production costs per unit</b>
Commodity 1	30,000	Rs.30	Rs. 18
Commodity 2	28,000	Rs.35	Rs. 28·40
Commodity 3	26,000	Rs.41·60	Rs. 26·40

Block & Co uses absorption costing. Fixed production overheads are absorbed on the basis of direct machine hours and the budgeted cost of these for the quarter ended 31 May 2013 was Rs.174,400. Commodity 1, 2 and 3 use 0·2 hours, 0·6 hours and 0·8 hours of machine time respectively.

The following data shows the actual sales prices and volumes achieved for each product by Block & Co for the quarter ended 31 May 2013 and the average market prices per unit.

<b>Product</b>	<b>Actual production and sales units</b>	<b>Actual selling price per unit</b>	<b>Average market price per unit</b>
Commodity 1	29,800	Rs.31	Rs.32·20
Commodity 2	30,400	Rs.34	Rs.33·15
Commodity 3	25,600	Rs.40·40	Rs.39·10

The following variances have already been correctly calculated for Commodities 1 and 2:

**Sales price operational variances**

Commodity 1: Rs. 35,760 Adverse

Commodity 2: Rs. 25,840 Favourable

**Sales price planning variances**

Commodity 1: Rs. 65,560 Favourable

Commodity 2: Rs. 56,240 Adverse

**Required:**

(a) Calculate, for Commodity 3 only, the sales price operational variance and the sales price planning variance. **(04)**

(b) Calculate for Commodities 1, 2 and 3, the total sales mix variance and the total sales quantity variance. **(06)**

**Q.5** M/s Technoplast International Limited having a capacity of moulding and machining 4,800 tonnes of special material per annum which passes through two production departments Moulding and Machining. The sales forecast for the next financial year envisages full utilization of production capacity in the following territories:

Northern Zone: 3,000 tonnes @ Rs.750,000 per tonne

Southern Zone: 1,800 tonnes @ Rs.1,000,000 per tonne

Over the years the company has established three possible sources of raw material as under:

**KOREA**

Agrees to supply, 3,600 tonnes of input materials @ Rs.300,000 per tonne

**CHINA**

Offers to supply 4,000 tonnes of input materials @ Rs.275,000 per tonne

**TAIWAN**

Agrees to supply @ Rs.325,000 per tonne. If the entire input requirement is taken from them they will offer a discount of 5%

The additional cost of freight etc, for bringing the input materials from suppliers is as under:

Rs.10,000 per tonne to be spent by M/s Technoplast

Rs.15,000 per tonne to be spent by M/s Technoplast

The transport cost is to be paid by the supplier

- The average level of scrap arising from the two production departments moulding and Machining are 5 % and 10% respectively which is calculated on the final output.
- The realizable value of scrap which is used by local moulders is sold out @ Rs.75,000 per tonne for Moulding Department and @ Rs.100,000 per tonne for Machining Department which is adjusted to material cost.
- There is no opening or closing stock of special material.
- Distribution cost will be 15 % of production cost.
- Budget for the departmental cost for the next year are as under:

	<b>Rs.(million)</b>	
	<b>Moulding Department</b>	<b>Machining Department</b>
Direct Labour	8	24
Overheads	32	72

**Required:**

Determine the priority in which the material is to be purchased and prepare a statement showing the profitability of the M/s Technoplast International Limited for the next year. **(15)**

**Q.6** AA and BB are two divisions of the ZZ group. The AA division manufactures electrical components which it sells to other divisions and external customers.

The BB division has designed a new product, Product B, and has asked AA to supply the electrical component, Component A, that is needed in the new product. This will be a completely new style of component. Each unit of

Product B will require one Component A. This component will not be sold by AA to external customers. AA has quoted a transfer price to BB of Rs.45 for each unit of Component A.

It is the policy of the ZZ group to reward managers based on their individual division's return on capital employed.

Details of the monthly production for each division are as follows:

	<b>AA division</b>	<b>BB division</b>
Product	Component A	Product B
Production	in batches of 1000 units	in batches of 1000 units
Maximum Capacity	6,000	
Maximum Demand		6,000
Variable Cost	Rs. 15 per unit	Rs. 9 per unit
Fixed Cost	Rs.50,000 (Specifically incurred to produce component A)	Rs.75,000 (Specifically incurred to produce product B)

The relationship between monthly customer demand and the selling price of Product B is shown below:

<b>Demand</b>	<b>Selling price per unit</b>
1,000 units	Rs.120
2,000 units	Rs.110
3,000 units	Rs.100
4,000 units	Rs.90
5,000 units	Rs.80
6,000 units	Rs.67

**Required:**

- (a) Determine how the company could maximize its profits. **(12)**
- (b) Discuss the problems of setting a transfer price and suggest a transfer pricing policy that would help the ZZ group to overcome the transfer pricing problems that it faces. **(05)**

**(THE END)**