

Test Series: October, 2020

MOCK TEST PAPER
FINAL (OLD) COURSE: GROUP – II
PAPER – 5: ADVANCED MANAGEMENT ACCOUNTING

Question No. 1 is compulsory
*Answer any **five** questions from the remaining **six** questions*

Time Allowed – 3 Hours

Maximum Marks – 100

1. (a) The budgeted results of P Ltd. as under:

Product	Sales Values (₹)	P / V Ratio (%)
A	2,50,000	50
B	4,00,000	40
C	6,00,000	30

Fixed overheads for the period is ₹5,02,200.

The management is worried about the results. You are required to prepare a statement showing the amount of loss, if any, being incurred at present and recommend a change in the sale value of each product as well as in the total sales value maintaining the same sales– mix, which will eliminate the said loss.

(5 Marks)

- (b) ABC Ltd., by using 12,00,000 units of a material C produces jointly 2,00,000 units of A and 4,00,000 units of B. The costs and sales details are as under:

	₹
Direct Material C @ ₹ 5 per unit	60,00,000
Other variable costs	42,00,000
Total fixed costs	18,00,000
Selling price of A per unit	25
Selling price of B per unit	20

The company receives an additional order for 40,000 units of B at the rate of ₹15 per unit. If this order has been accepted, the existing price of B will not be affected. However, the present price of A should be reduced evenly on the entire sale of A to market the additional units to be produced.

Required

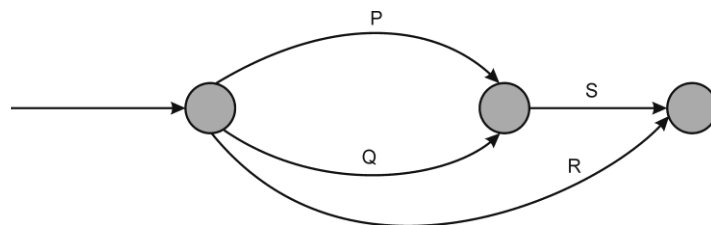
Find the minimum average unit price to be charged on A to sustain the increased sales. **(5 Marks)**

- (c) XY Ltd. makes two products X and Y, whose respective fixed costs are F_1 and F_2 . You are given that the unit contribution of Y is one-fifth less than the unit contribution of X, that the total of F_1 and F_2 is ₹ 1,50,000, that the BEP of X is 1,800 units (for BEP of X F_2 is not considered) and that 3,000 units is the indifference point between X and Y. (i.e. X and Y make equal profits at 3,000 unit volume, considering their respective fixed costs). There is no inventory buildup as whatever is produced is sold.

Required

Find out the values F_1 and F_2 and units contributions of X and Y. **(5 Marks)**

- (d) The following is a part of a network.



What are activities P and Q called? How would you rectify the situation? **(5 Marks)**

2. (a) Kitchen King Ltd. (KKL) manufactures consumer durable products in a very highly competitive market. KKL is considering launching a new product 'Kitchen Care' into the market and gathered the following data:

Expected Market Price	₹5,000 per unit
Direct Material Cost	₹1,850 per unit
Direct Labour Cost	₹80 per hour
Variable Overhead Cost	₹1,000 per unit
Packing Machine Cost (specially to be purchased for this product)	₹5,00,000

KKL expects the selling price for the new product will continue throughout the product's life and a total of 1,000 units can be sold over the entire lifetime of the product.

Direct labour costs are expected to reduce as the volume of output increases due to the effects of 80% learning curve (index is -0.3219). The expected time to be taken for the first unit is 30 hours and the learning effect is expected to end after 250 units

have been produced. Units produced after first 250 units will take the same time as the 250th unit.

Required:

- Calculate the expected total labour hours over the life time of the product 'Kitchen Care'.
- Profitability of product 'Kitchen Care' that KKL will earn over the life time of the product.
- Average target labour cost per unit over the life time of the product if KKL requires average profit of ₹800 per unit, to achieve its long term objectives.

Note: $250^{-0.3219} = 0.1691$, $249^{-0.3219} = 0.1693$

(11 Marks)

(b) Minimize

$$Z = 2x_1 - 3x_2 + 4x_3$$

Subject to the Constraints:

$$\begin{aligned} 3x_1 + 2x_2 + 4x_3 &\geq 9 \\ 2x_1 + 3x_2 + 2x_3 &\geq 5 \\ 7x_1 - 2x_2 - 4x_3 &\leq 10 \\ 6x_1 - 3x_2 + 4x_3 &\geq 4 \\ 2x_1 + 5x_2 - 3x_3 &= 3 \\ x_1, x_2, x_3 &\geq 0 \end{aligned}$$

Required

Find the dual problem for the above problem.

(5 Marks)

3. (a) W & T is a leading consumer goods firm. The budgeted and actual data of W & T for the year 2017-18 are as follows:-

Particulars	Budget	Actual	Variance
Sales / Production (units)	2,00,000	1,65,000	(35,000)
Sales (₹)	21,00,000	16,92,900	(4,07,100)
Less: Variable Costs (₹)	12,66,000	10,74,150	1,91,850
Less: Fixed Costs (₹)	3,15,000	3,30,000	(15,000)
Profit	5,19,000	2,88,750	(2,30,250)

The budgeted data shown in the table is based on the assumption that total market size would be 4,00,000 units but it turned out to be 3,75,000 units.

Required

Prepare a statement showing reconciliation of budget profit to actual profit through marginal costing approach for the year 2017-18 in as much detail as possible.

(12 Marks)

- (b) How do you know whether an alternative solution exists for a transportation problem?
(4 Marks)

4. (a) DTS Manufacturers Ltd. (DTSML) is specialist in the manufacturing of Industrial Products. They manufacture and market two types of products under the name 'L' and 'M'. Company produces two products from three basic raw materials 'N', 'O', and 'P'. Company follows a 13-period reporting cycle for budgeting purpose. Each period is four weeks long and has 20 working days. Data relating to the purchase of raw materials are presented below:

Raw Material	Purchase Price (Per Kg)	Standard Purchase Lot (Kg)	Reorder Point (Kg)	Projected Inventory Status at the end of 5 th period (Kg)		Lead Time in Working Days
				On Hand	On Order	
N	₹ 1.00	90,000	72,000	96,000	90,000	10
O	₹ 2.00	30,000	45,000	54,000	-	25
P	₹ 1.00	60,000	60,000	84,000	60,000	20

Past experience has shown that adequate inventory levels for 'L' and 'M' can be maintained if 40 percent of the next period's projected sales are on hand at the end of a reporting period. Other relevant information is as follows:

Product	Raw Material Specifications			Projected Inventory Levels	Projected Sales		
	N	O	P	At the end of current (5 th) period	6 th Period	7 th Period	8 th Period
	Kg	Kg	Kg	Units	Units	Units	Units
L	1.25	0.50	-	18,000	45,000	52,500	57,000
M	2.00	-	1.50	16,800	42,000	27,000	24,000

The sales of 'L' and 'M' do not vary significantly from month to month. Consequently, the safety stock incorporated into the reorder point for each of the raw materials is adequate to compensate for variations in the sales of the finished products.

Raw materials orders are placed the day the quantity on hand falls below the reorder point. DTSML's suppliers are very trustworthy so that the given lead times are reliable.

The outstanding orders for raw materials 'N' and 'P' are due to arrive on the 10th and 4th working day of the 6th period, respectively. Payments for all raw material orders are remitted by the 10th day of the delivery.

You are required to determine the following items for raw materials 'N', 'O', and 'P' for inclusion in the 6th period report to management:

1. Projected quantities (in Kg) to be issued to production.
2. Projected quantities (in Kg) ordered and the date (in terms of working days) the order is to be placed.
3. The projected inventory balance (in Kg) at the end of the period.
4. The payments for purchases with due date. **(12 Marks)**

(b) State the appropriate pricing policy in each of the following independent situations:

- (i) 'A' is a new product for the company and the market and meant for large scale production and long term survival in the market. Demand is expected to be elastic.
- (ii) 'B' is a new product for the company, but not for the market. B's success is crucial for the company's survival in the long term.
- (iii) 'C' is a new product to the company and the market. It has an inelastic market. There needs to be an assured profit to cover high initial costs and the usual sources of capital have uncertainties blocking them.
- (iv) 'D' is a perishable item, with more than 80% of its shelf life over. **(4 Marks)**

5. (a) XYZ International is developing a new product. During its expected life, 16,000 units of the product will be sold for ₹ 102 per unit.

Production will be in batches of 1,000 units throughout the life of the product.

The direct labour cost is expected to reduce due to the effects of learning for the first eight batches produced. Thereafter, the direct labour cost will remain constant at the same cost per batch as in the 8th batch.

The direct labour cost of the first batch of 1,000 units is expected to be ₹ 55,000 and a 90% learning effect is expected to occur. The direct material and other non-labour related variable costs will be ₹ 50 per unit throughout the life of the product.

There are no fixed costs that are specific to the product.

The learning index for a 90% learning Curve = - 0.152; $8^{-0.152} = 0.729$; $7^{-0.152} = 0.744$

Required

- (i) CALCULATE the expected direct labour cost of the 8th batch.
 - (ii) CALCULATE the expected contribution to be earned from the product over its lifetime.
 - (iii) CALCULATE the rate of learning required to achieve a lifetime product contribution of ₹ 5,00,000, assuming that a constant rate of learning applies throughout the product's life. **(8 Marks)**
- (b) INZ Bank operated for years under the assumption that profitability can be increased by increasing Rupee volumes. But that has not been the case. Cost analysis has revealed the following:

Activity	Activity Cost (₹)	Activity Driver	Activity Capacity
Providing ATM Service	1,00,000	No. of Transactions	2,00,000
Computer Processing	10,00,000	No. of Transactions	25,00,000
Issuing Statements	8,00,000	No. of Statements	5,00,000
Customer Inquiries	3,60,000	Telephone Minutes	6,00,000

The following annual information on three products was also made available:

Activity Driver	Checking Accounts	Personal Loans	Gold Visa
Units of Product	30,000	5,000	10,000
ATM Transactions	1,80,000	0	20,000
Computer Transactions	20,00,000	2,00,000	3,00,000
Number of Statements	3,00,000	50,000	1,50,000
Telephone Minutes	3,50,000	90,000	1,60,000

Required

- (i) Calculate rates for each activity.
 - (ii) Using the rates computed in requirement (i), calculate the cost of each product. **(8 Marks)**
6. (a) A public company responsible for the supply of domestic gas has been approached by several prospective customers in a rural area adjacent to a high-pressure main. As a condition of its license to operate as a utility, the company is obliged to respond positively to current needs provided the financial viability of the company is

not put at risk. New customers are charged ₹ 250 each for connection to the system.

Once a meter is installed, a standing charge of ₹ 10 per quarter is billed. Charges for gas are levied at ₹ 400 per 1,000 metered units.

A postal survey of the area containing, according to the rating authority, 5,000 domestic units, elicited a 40% response rate. 95% of those who responded confirmed that they wished to become gas users and expressed their willingness to pay the connection charge.

Although it is recognized that a small percentage of those willing to pay for connection may not actually choose to use gas, it is expected that the average household will burn 50 metered units per month. There will be some seasonal differences.

The company's marginal cost of capital is 17% pa and supplies of bulk gas cost the company ₹ 0.065 per metered unit.

Required

Determine what the maximum capital project cost can be to allow the company to provide the service required if wastage of 15% has to be allowed. **(8 Marks)**

- (b) Imagine yourself to be the Executive Director of a 5-Star Hotel which has four banquet halls that can be used for all functions including weddings. The halls were all about the same size and the facilities in each hall differed. During a heavy marriage season, 4 parties approached you to reserve a hall for the marriage to be celebrated on the same day. These marriage parties were told that the first choice among these 4 halls would cost ₹25,000 for the day. They were also required to indicate the second, third and fourth preferences and the price that they would be willing to pay. Marriage party A & D indicated that they won't be interested in Halls 3 & 4. Other particulars are given in the following table-

Revenue/Hall (₹)

Marriage Party	Hall 1	Hall 2	Hall 3	Hall 4
A	25,000	22,500	X	X
B	20,000	25,000	20,000	12,500
C	17,500	25,000	15,000	20,000
D	25,000	20,000	X	X

Where X indicates that the party does not want that hall. Decide on an allocation that will maximize the revenue to your hotel. **(8 Marks)**

7. Answer any **four** of the following questions:

- (a) What should be the basis of transfer pricing, if unit variable cost and unit selling price are not constant? **(4 Marks)**
- (b) What do you mean by DPP? What are its benefits? **(4 Marks)**
- (c) What is target costing? It is said that target costing fosters team work within the organisation. Explain how target costing creates an environment in which team work fosters. **(4 Marks)**
- (d) In each of the following independent situations, state with a brief reason whether 'Zero Based Budgeting' (ZBB) or 'Traditional Budgeting' (TB) would be more appropriate for year II.
 - (i) A company producing a certain product has done extensive ZBB exercise in year I. The activity level is expected to marginally increase in year II.
 - (ii) The sale manager of a company selling three products has intuitive feeling that in year II, sales will increase for one product and decrease for the other two. His expectation can not be substantiated with figures.
 - (iii) The top management would like to delegate responsibility to the functional managers for their results during year II.
 - (iv) Resources are heavily constrained and allocation for budget requirements is very strict. **(4 Marks)**
- (e) A car rental agency has collected the following data on the demand for five-seater vehicles over the past 50 days.

Daily Demand	4	5	6	7	8
No. of Days	4	10	16	14	6

The agency has only 6 cars at present.

- (i) Use the following 5 random numbers to generate 5 days of demand for the rental agency
Random Nos: 15, 48, 71, 56, 90
- (ii) What is the average number of cars rented per day for the 5 days?
- (iii) How many rentals will be lost over the 5 days? **(4 Marks)**