

MOCK TEST PAPER – 1

FINAL COURSE: GROUP – II

PAPER – 5: ADVANCED MANAGEMENT ACCOUNTING

*All Questions are of 10 marks. Attempt 7 questions from **Group A** and 3 from **Group B***

Time Allowed – 3 Hours

Maximum Marks – 100

GROUP - A

1. A company is organised into two processes. Raw material is introduced into Process A and its output becomes the raw material for Process B. The finished goods of Process B is sold in the market. Process A has a capacity to process an input of 200,000 kg. of raw material per annum. The normal scrap is 10% and 5% of input in Process A and Process B respectively. The realizable value of scrap is ₹ 1 and ₹ 2 per kg. respectively for Processes A and B. The operating data for a year are as under:

	Process A	Process B
Direct Wages	₹ 22,00,000	21,00,000
Overheads	₹ 9,56,000	13,45,800

There are three suppliers of raw material whose price quotations and terms are as under:

Supplier	Price ₹ /Kg.	Terms
P	10.00	Maximum quantity offered is 1,20,000 kg.
Q	11.20	Maximum quantity offered is 1,60,000 kg.
R	11.00	If the entire quantity of 2,00,000 kg. is ordered. Otherwise, for any quantity less than 2,00,000 kg. the price charged is ₹ 11.60 per kg.

In each case, the raw material is to be collected from the supplier's factory. The variable transport cost for bringing the raw materials is as under:

Supplier	P	Q	R
Variable transport cost per Kg. ₹	1.20	1.00	1.00

The fixed transport cost will be ₹ 2,00,000 per annum irrespective of the supplier from whom the raw material is purchased.

The output of the company emerging from Process B can be sold to three customers at the prices and terms given below:

Customer	Price ₹ /Kg.	Discount	Condition
K	65.00	2%	Maximum quantity acceptable to K is 80,000 Kg.
L	64.00	2%	Maximum quantity acceptable to L is 1,60,000 Kg.
M	61.80	-	Provided the entire production of the company is sold to M

In the case of customers K and L, fixed delivery costs of ₹ 5,000 in total per month will be incurred. The variable delivery costs in respect of customers K and L respectively are ₹ 2.60 and ₹ 1.44 per Kg. Customer M will collect the output from the company's factory at his own cost.

- (i) You are required to indicate with supporting calculations the choice of (a) suppliers and (b) customers.
 - (ii) Based on your recommendation in (i) above, prepare a statement showing the process wise costs and profit of the company for the year.
2. A company has been making a machine to order for a customer, but the customer has since gone into liquidation, and there is no prospect that any money will be obtained from the winding up of the company.

Costs incurred to date in manufacturing the machine are ₹ 50,000 and progress payments of ₹ 15,000 had been received from the customer prior to the liquidation.

The sale department has found another company willing to buy the machine for ₹ 34,000 once it has been completed.

To complete the work, the following costs would be incurred.

- (a) Materials: these have been bought at a cost of ₹ 6,000. They have no other use, and if the machine is not finished, they would be sold for scrap for ₹ 2,000.
- (b) Further labour costs would be ₹ 8,000. Labour is in short supply, and if the machine is not finished, the work force would be switched to another job, which would earn ₹ 30,000 in revenue, and incur direct costs of ₹ 12,000 and absorbed (fixed) overhead of ₹ 8,000.
- (c) Consultancy fee ₹ 4,000. If the work is not completed, the consultants' contract would be cancelled at a cost of ₹ 1,500.
- (d) General overheads of ₹ 8,000 would be added to the cost of the additional work.

Required: Assess whether the new customer order should be accepted.

3. Vikas Travel Agency (VTA) specializes in flights between Delhi to Bangalore. It books passengers on Dolphin Airlines at ₹ 9,000 per round-trip ticket. Until last month, Dolphin paid VTA a commission of 10% of the ticket price paid by each passenger. This commission was VTA's only source of revenues. VTA's fixed costs are ₹ 1,40,000 per month (for salaries, rent and so on) and its variable costs are ₹ 200 per ticket purchased for a passenger. This ₹ 200 includes ₹ 150 per ticket delivery fee paid to Senti Express. (₹ 150 delivery fee applies to each ticket).

Dolphin Airlines has just announced a revised payment schedule for travel agents. It will now pay travel agents a 10% commission per ticket up to a maximum of ₹ 500. Any ticket costing more than ₹ 5,000 generates only a ₹ 500 commission, regardless of the ticket price.

Required:

- (i) Under the old 10% commission structure, how many round-trip tickets must VTA's sell each month (a) to break-even and (b) to earn an operating income of ₹ 70,000.
 - (ii) How does Dolphin revised payment schedule affect your answers to (a) and (b) in requirement 1 ?
4. ABC Ltd recently began production of a new product, M, which required the investment of ₹ 16,00,000 in assets. The costs of producing and selling 80,000 units of Product M are estimated as follows:

	₹	
Variable costs:		
Direct materials	10.00	per unit
Direct labour	6.00	
Factory overhead	4.00	
Selling and administrative expenses	<u>5.00</u>	
Total	<u>25.00</u>	per unit
Fixed costs:		
Factory overhead	8,00,000	
Selling and administrative expenses	4,00,000	

ABC Ltd is currently considering establishing a selling price for Product M. The President of ABC Ltd has decided to use the cost-plus approach to product pricing and has indicated that Product M must earn a 10% rate of return on invested assets.

You are required to :

- (i) Determine the amount of desired profit from the production and sale of Product M.

- (ii) Assuming that the total cost concept is used, determine (a) the cost amount per unit, (b) the markup percentage, and (c) the selling price of Product M.
- (iii) Assuming that the product cost concept is used, determine (a) the cost amount per unit, (b) the mark up percentage, and (c) the selling price of Product M.
- (iv) Assuming that the variable cost concept is used, determine (a) the cost amount per unit, (b) the markup percentage, and (c) the selling price of Product M.
- (v) Assume that for the current year, the selling price of Product M was ₹ 42 per unit. To date, 60,000 units have been produced and sold, and analysis of the domestic market indicates that 15,000 additional units are expected to be sold during the remainder of the year. Recently, ABC Ltd received an offer from XYZ Ltd for 4,000 units of product M at ₹ 28 each. XYZ Ltd. will market the units in Korea under its own brand name, and no additional selling and administrative expenses associated with the sale will be incurred by ABC Ltd. The additional business is not expected to affect the domestic sales of Product M, and the additional units could be produced during the current year, using existing capacity. (a) Prepare a differential analysis report of the proposed sale to XYZ Ltd (b) Based upon the differential analysis report in (a), should the proposal be accepted?
5. A single product company having a normal capacity of 8,00,000 units per annum has prepared the following cost sheet:

	₹ per unit
Direct materials	5
Direct labour	2
Factory overheads (50% fixed)	4
Selling & Administrative overheads (1/3 variable)	3
Selling price	18

The Company achieved a sales volume of 6,00,000 units during the last year. During the current year, since the market is buoyant the company has launched an expansion programme. The proposed operational details for the current year are as under:

- The capacity will be increased to 12,00,000 units.
- The additional fixed overheads will amount to ₹ 8 lacs upto 10,00,000 units and will increase by ₹ 4 lacs more beyond 10 lac unit level.
- The expansion scheme involving a capital cost of ₹ 20 lacs will be financed through borrowings at an interest rate of 15% per annum.
- Depreciation on new investment is 20% on straight line basis.

The company has two proposals for operating the expanded plant during current year as under:

- (i) Sales can be increased to 10 lac units by spending ₹ 2, 00,000 on special advertisement; or
- (ii) Sales can be increased to 12 lac units subject to the following:
 - by an overall price reduction of ₹ 2/- per unit on all units sold.
 - by increasing the variable selling and administrative expenses by ₹ 1,00,000.
 - by a reduction in direct material cost by 5% due to bulk buying discount.

Required:

- (i) Construct a flexible budget at 6 lacs, 10 lacs and 12 lacs units of production.
 - (ii) Advise which level of output should be chosen by the company.
6. ABC Limited manufactures three types of products namely Product 1, Product 2 and Product 3. The production process requires a single input raw material, a single type of direct labour and a single energy input, electricity. Overheads are shared by all three products. Budgeted details of the three products are shown below;

	Product 1	Product 2	Product 3
Labour hours per unit	0.20	0.25	0.40
Material kg per unit	1.0	1.1	1.3
Kilowatt hours per unit(kwhr)	0.5	0.6	0.8
Budgeted sales in units	10,000	6,000	2,000
Forecasted price (₹)	15	20	40

The committed fixed overheads are expected to cost ₹ 80,000 per period and the unit costs for the input resources are as follows ;

Labour ₹ 20 per hour

Material ₹ 4 per unit

Energy ₹ 6 per kilowatt hour

The actual financial results for ABC Limited for the budgeted period are shown below;

Sales		₹ 3,85,000
	Labour	₹ 1,09,452
	Material	96,448
	Energy	61,671
Variable costs		2,67,571

Committed overhead	84,000
Profits	₹ 33,429

Additional information regarding inputs and outputs during the concerned period are provided to you below;

Outputs			Inputs		
	Quantity	Price (₹)		Quantity	Price (₹)
Product 1	12,000	16	Labour	5,212 hours	21.00
Product 2	5,500	22	Materials	21,920 kg	4.40
Product 3	1,800	40	Energy	10,633 kwhr	5.80

With the help of the above information, you are required to calculate the standard margin (contribution) and subsequently compute the following variances in order to reconcile Budgeted Profits with the Actual Profits;

- (a) Sales –Activity Variance
- (b) Price – Recovery Variance
- (c) Productivity Variance

7. L Ltd. and M Ltd. are subsidiaries of the same group of companies. L Ltd. produces a branded product sold in drums at a price of ₹ 20 per drum.

Its direct product costs per drum are:

Raw material from M Ltd.: At a transfer price of ₹ 9 for 25 litres.

Other products and services from outside the group: At a cost of ₹ 3.

L Ltd.'s fixed costs are ₹ 40,000 per month. These costs include process labour whose costs will not alter until L Ltd.'s output reaches twice its present level.

A market research study has indicated that L Ltd.'s market could increase by 80% in volume if it were to reduce its price by 20%.

M Ltd. produces a fairly basic product, which can be converted into a wide range of end products. It sells one third of its output to L Ltd. and the remainder to customers outside the group.

M Ltd.'s production capacity is 10,00,000 kilolitres per month, but competition is keen and it budgets to sell no more than 7,50,000 kilolitres per month for the year ending 31 December.

Its variable costs are ₹ 0.20 per Kilolitre and its fixed costs are ₹ 60,000 per month.

The current policy of the group is to use market prices, where known, as the transfer price between its subsidiaries. This is the basis of the transfer prices between M Ltd. and L Ltd.

You are required to calculate

- (a) the monthly profit position for each of L Ltd. and M Ltd. if the sales of L Ltd. are
 - (i) at their present level, and
 - (ii) at the higher potential level indicated by the market research, subject to a cut in price of 20%.
 - (b) (i) Explain why the use of a market price as the transfer price produces difficulties under the conditions outlined in (a) (ii) above;
 - (ii) Explain briefly, as Chief Accountant of the group, what factors you would consider in arriving at a proposal to overcome these difficulties;
8. (a) What is Target Costing and what are the stages to the methodology ?
- (b) Describe the concept of Back flushing as used in the JIT system. What problems need to be addressed before implementing such a concept? Briefly discuss.
- (c) What is Opportunity Cost? Explain with suitable examples.
- (d) Describe the requisites to be considered while installing a system of inter-firm comparison by an industry.

GROUP B

9. Using Simplex Method to solve the following L.P.P.
- Minimize $Z = 2x_1 + x_2$
- Subject to
- $3x_1 + x_2 = 3$
- $4x_1 + 3x_2 \leq 6$
- $x_1 + 2x_2 \leq 3$
- $x_1, x_2 \geq 0$.
10. Find the assignment of salesman to district that will result in maximum sales.

	A	B	C	D	E
1	32	38	40	28	40
2	40	24	28	21	36
Salesmen is 3	41	27	33	30	37
4	22	38	41	36	36
5	29	33	40	35	39

11. The following tables gives data on normal time and cost and crash time and cost for a project.
- Draw the network and identity the critical path.
 - What is the normal project duration and associated cost ?
 - Find out total float for each activity.
 - Crash the relevant activities systematically and determine the optimum project time and cost.

Activity	Normal		Crash	
	Time (weeks)	Cast (Rs.)	Time (weeks)	Cast (Rs.)
1-2	3	300	2	400
2-3	3	30	3	30
2-4	7	420	5	580
2-5	9	720	7	810
3-5	5	250	4	300
4-5	0	0	0	0
5-6	6	320	4	410
6-7	4	400	3	470
6-8	13	780	10	900
7-8	10	1000	9	1200

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Indirect costs are ₹ 50 per week.

12. A car manufacturing company manufactures 40 cars per day. The sale of cars depends upon demand which has the following distribution.

Sales of Cars	Probability
37	0.10
38	0.15
39	0.20
40	0.35
41	0.15
42	0.05

The production cost and sale price of each car are ₹ 4 lakhs and ₹ 5 lakhs respectively. Any unsold car is to be disposed off at a loss of ₹ 2 lakhs per car. There is a penalty of ₹ 1 lakh per car, if the demand is not met. Using the following random numbers, estimates total profit/loss for the company for the next ten days.

9, 98, 64, 98, 94, 01, 78, 10, 15, 19

If the company decides to produce 39 cars per day, what will be its impact on profitability?