

Test Series: August, 2017

MOCK TEST PAPER – 1

FINAL 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) Mini SIAM, located in Himachal Pradesh, manufactures high quality industrial products. NIA Industries have asked Mini SIAM for a special job that must be completed within one week.

Raw material R_1 (highly toxic) will be needed to complete the NIA Industries' special job. Mini SIAM purchased the R_1 two weeks ago for Rs. 7,500 for a job 'A' that recently was completed. The R_1 currently in stock is the excess from that job and Mini SIAM had been planning to dispose of it. Mini SIAM estimates that it would cost them Rs. 1,250 to dispose of the R_1 . Current replacement cost of R_1 is Rs. 6,000.

Special job will require 250 hours of labour G_1 and 100 hours of labour G_2 . Mini SIAM pays their G_1 and G_2 employees Rs.630 and Rs.336 respectively for 42 hours of work per week. Mini SIAM anticipates having excess capacity of 150 [G_1] and 200 [G_2] labour hours in the coming week. Mini SIAM can also hire additional G_1 and G_2 labour on an hourly basis; these part-time employees are paid an hourly wage based on the wages paid to current employees.

Suppose that material and labour comprise Mini SIAMs only costs for completing the special job. What is the *minimum price* that Mini SIAM should bid on this job?

(5 Marks)

- (b) Following information are extracted from monthly budgets of Victoria Ltd. You are required to find out missing figures.

	November	December
Beginning WIP Inventory	36,000	???
Beginning Finished Goods Inventory	44,000	???
Variable Cost of Goods Sold	1,23,000	???
Direct Material Usage	50,000	56,000
Direct Labour	53,100	69,000
Variable Overhead	25,000	29,000

Variable Cost of Goods Manufactured	1,09,000	1,14,800
Ending WIP Inventory	???	???
Ending Finished Goods Inventory	???	45,000

(5 Marks)

- (c) XY Ltd. manufactures two types of mobile phones, X and Y. Due to severe competition, it has to reduce the prices for the next production period. The following information is provided:

	X	Y
Current Period:		
Selling price (Rs. / unit)	10,000	12,000
P/V ratio	25%	30%
Product-specific fixed cost (Rs.)	10,00,000	15,00,000
Next Period:		
Selling price (Rs. /unit)	8,000	9,000

For the next period the company wants the present P/V ratio to be maintained and achieve a break-even for both the products at 400 units.

What is the cost reduction programme envisaged?

(5 Marks)

- (d) The following 3×3 matrix arises after the Row minimum and Column minimum operation of a minimization assignment problem:

Columns	C₁	C₂	C₃
Rows			
R₁	0	0	0
R₂	0	a	b
R₃	0	c	d

Given that $a \neq b \neq c \neq d \neq 0$, (i.e. a, b, c, d are non zero and unequal), will R₁ C₁ (cell at the intersection of Row 1 and Column 1) appear in the final solution under the assignment algorithm? Why? Interpret this part of the algorithm. (5 Marks)

2. (a) A Company has two production departments KTS and KTW. Standards for the forthcoming year is as follows:

Particulars	Department KTS	Department KTW
Direct Labour Hours available per period	12,000	8,000

Standard Wage Rate <i>per hour</i>	Rs. 3	Rs. 2.5
Expected Learning Curve	80%	70%
Standard Variable Overheads <i>per hour</i>	Rs. 10	Rs. 6
Standard Fixed Overheads <i>per hour</i>	Rs. 11	Rs. 7
Direct Labour Hours <i>required for first 100 units</i>	36 <i>per unit</i>	18 <i>per unit</i>

The direct materials are introduced in Department KTS. The company has following quote for purchase of direct material:

Level of Outputs (Units)	Price of Direct Material <i>per unit of output</i>
100	Rs. 36.00
200	Rs. 32.40

Overtime, if required is paid at the time and half. The overhead rates as given above do not include overtime premium.

It is the policy of the company to add profit margin as under in quoting the prices:

Department	Percentage
KTS	10% of Labour & 15% Overhead Cost
KTW	

The company has received a special order. Special tooling costs of the order amount to Rs. 5,500. If this order is for 200 units or less, it will be executed in the period which has a workload of 7,680 direct labour hours in Department KTS and 4,200 direct labour hours in Department KTW.

Required:

If the company decides to get the work executed entirely within the company, what price, on cost-plus basis, should be quoted for the order, if it consists of 100 Units, 200 units. (12 Marks)

- (b) State whether the learning curve theory can be applied to the following independent situations briefly justifying your decision:
- A labour intensive sculpted product is carved from the metal provided to the staff. The metal is sourced from different suppliers since it is scarce. The alloy composition of the input metal is quite different among the suppliers.
 - Pieces of hand-made furniture are assembled by the company in a far off location. The labourers do not know anything about the final product which utilizes their work. As a matter of further precaution, rotation of labour is done frequently.
 - Skilled workers have been employed for a long time. The company has

adequate market for the craft pieces done by these experts.

- (iv) A company finds that it always has an adverse usage of indirect material. It wants to apply learning curve theory to improve the way standards have been set. (4 Marks)

3. (a) Given below is an iteration in a simplex table for a maximization objective linear programming product mix problem for products X_1 , X_2 and X_3 .

$C_j \rightarrow$			6	4	10	0	0	0
	Basic Variable	Quantity	X_1	X_2	X_3	S_1	S_2	S_3
0	S_1	400	0	$4/3$	0	1	$-1/3$	0
6	X_1	400	1	$2/3$	2	0	$1/3$	0
0	S_3	400	0	$5/3$	0	0	$-2/3$	1
Z_j		2,400	6	4	12	0	2	0
$C_j - Z_j$			0	0	-2	0	-2	0

Answer the following questions:

- Is the above solution feasible?
 - Perform one more iteration with X_2 entering the solution to get a solution with the same value for the objective function.
 - Indicate the shadow prices.
 - If customer is prepared to pay higher price for product X_3 then by how much should the price be increased so that the company's profit remains unchanged?
 - From the given table, derive any one original constraint inequality with the coefficients of variables in their simplest whole number forms. (8 Marks)
- (b) A company following standard marginal costing system has the following interim trading statement for the quarter ending 30th June, 2013, which reveals a loss of Rs. 17,000, detailed below:

	Rs.
Sales	4,99,200
Closing Stock (at prime cost)	18,000
Direct Material	1,68,000
Direct Labour	1,05,000
Variable Overhead	42,000

Fixed Overhead	1,20,000
Fixed Administration Overhead	40,000
Variable Distribution Overhead	19,200
Fixed Selling Overhead	40,000
Loss	17,000

Additional information is as follows:

- (i) Sales for the quarter were 1,200 units. Production was 1,400 units, of which 100 units were scrapped after complete manufacture. The factory capacity is estimated at 2,000 units.
- (ii) Because of low production, labour efficiency during the quarter is estimated to be 20% below normal level.

You are required to analyse the above and report to the management giving the reasons for the loss. (8 Marks)

4. (a) Venus Medical Care Co. (VMCC) is operating its entire business through its four customers V₁, V₂, V₃, and V₄. V₁ and V₂ are small pharmaceutical stores while V₃ and V₄ are large discount stores with attached pharmacies. VMCC prices its products at 25% above variable cost, although all four customers demand and receive a sizable discount off the list price.

The Finance Officer Mr. Albert has been asked to undertake a customer profitability analysis that shows the profit from each customer and each customer channel, stand-alone pharmaceuticals, and large pharmaceuticals attached to discount stores.

Mr. Albert identifies Rs. 20,250 of general administration costs to small pharmaceuticals stores and Rs.48,375 of general administration costs to the large discount stores.

You are required to assist Mr. Albert in preparing a customer profitability report as desired. Also suggest some points to improve VMCC's profit.

Item	Small Pharmaceuticals		Large Pharmaceuticals		Activity Rate
	V ₁	V ₂	V ₃	V ₄	
Number of Orders	4	9	6	3	Rs.750
Order Size	Rs.40,000	Rs.20,000	Rs.4,25,000	Rs.4,00,000	n/a
Average Discount	5%	10%	18%	12%	n/a

Regular Deliveries	4	9	6	3	Rs.375
Expedited Deliveries	2	0	2	0	Rs. 1,250

(8 Marks)

- (b) The following table gives the activities in a construction project and the time duration of each activity:

Activity	Predecessors	Normal Time (Days)
A	---	16
B	---	20
C	A	8
D	A	10
E	B,C	6
F	D,E	12

Required

- Draw the activity network of the project
- Find critical path
- Find the total float and free-float for each activity

(8 Marks)

5. (a) Natural Spices manufactures and distributes high-quality spices to gourmet food shops and top quality restaurants. Gourmet and high-end restaurants pride themselves on using the freshest, highest-quality ingredients.

Natural Spices has set up five state of the art plants for meeting the ever growing demand. The firm procures raw material directly from the centers of produce to maintain uniform taste and quality. The raw material is first cleaned, dried and tested with the help of special machines. It is then carefully grounded into the finished product passing through various stages and packaged at the firm's ultraclean factory before being dispatched to customers.

The following variances pertain to last week of operations, arose as a consequence of management's decision to lower prices to increase volume.

Sales Volume Variance	18,000 (F)
Sales Price Variance	14,000 (A)
Purchase Price Variance	10,000 (F)
Labour Efficiency Variance	11,200 (F)
Fixed Cost Expenditure Variance	4,400 (F)

Required

- (i) Identify the 'Critical Success Factors' for Natural Spices.
- (ii) Evaluate the management's decision with the 'Overall Corporate Strategy' and 'Critical Success Factors'. (8 Marks)
- (b) Catalyst Ltd. Makes a single product with the following details:

Description	Current Situation	Proposed Change
Selling Price (Rs./unit)	10	
Direct Costs (Rs./unit)	5	
Present number of setups per production period, (before each production run, setup is done)	42	
Cost per set up (Rs.)	450	Decrease by Rs.90
Production units per run	960	1,008
Engineering hours for production period	500	422
Cost per engineering hour (Rs.)	10	

The company has begun Activity Based Costing of fixed costs and has presently identified two cost drivers, viz. production runs and engineering hours. Of the total fixed costs presently at Rs. 96,000, after the above, Rs. 72,100 remains to be analyzed. There are changes as proposed above for the next production period for the same volume of output.

Required

- (i) How many units and in how many production runs should Catalyst Ltd. produce in the changed scenario in order to break-even?
- (ii) Should Catalyst Ltd. continue to break up the remaining fixed costs into activity based costs? Why? (8 Marks)
6. (a) Duke Ltd. has two Divisions 'Dx' and 'Dz' with full profit responsibility. The Division 'Dx' produces Component 'X' which it sells to 'outside' customers only. The Division 'Dz' produces a product called the 'Z' which incorporates Component 'X' in its design. 'Dz' Division is currently purchasing required units of Component 'X' per year from an outside supplier at market price.

New CEO for Indian Operations has explored that 'Dx' Division has enough capacity to meet entire requirements of Division 'Dz' and accordingly he requires internal transfer between the divisions at marginal cost from the overall company's perspective.

Manager of Division 'Dx' claims that transfer at marginal cost are unsuitable for performance evaluation since they don't provide an incentive to the division to transfer goods internally. He stressed that transfer price should be 'Cost plus a Mark-Up'.

New CEO worries that transfer price suggested by the manager of Division 'Dx' will not induce managers of both Divisions to make optimum decisions. You are requested to help him out of the problem. (6 Marks)

- (b) "Cost is not the only criterion for deciding in favour of shut down" – Briefly explain. (4 Marks)
- (c) Arnav Automobiles Ltd. is a leading manufacturer of commercial vehicles in India. It uses Standard Costing and Variance Analysis to measure its operating performance. Now management of Arnav Automobiles Ltd. wants to compete globally and changed its performance measurement system to Kaizen Costing. State why Kaizen Costing could be more useful for performance measurement than the Standard Costing and Variance Analysis. (6 Marks)

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

- (a) 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)
- (b) The following information is given about the type of defects during a production period and the frequencies of their occurrence in a spectacle manufacturing company:

Defect	No. of items
End Frame not equidistant from the centre	10
Non-uniform grinding of lenses	60
Power mismatches	20
Scratches on the surface	110
Spots / Stains on lenses	5
Rough edges of lenses	70
Frame colours-shade differences	25

Construct a frequency table so that a Pareto Chart can be constructed for the defect type. Which areas should the company focus on? (4 Marks)

- (c) "Sunk cost is irrelevant in decision making, but all irrelevant costs are not sunk costs." Explain with examples. (4 Marks)
- (d) Write a short note on the characteristics of the dual problem. (4 Marks)
- (e) Brief the principles associate with synchronous manufacturing. (4 Marks)