

Test Series: October, 2021

MOCK TEST PAPER – 1

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) J, located in Rudrapur, manufactures high quality industrial products. KIA Industries have asked J for a special job that must be completed within one week.

Raw material RM₁ (highly toxic) will be needed to complete the KIA Industries' special job. J purchased the RM₁ two weeks ago for ₹7,500 for a job 'A' that recently was completed. The RM₁ currently in stock is the excess from that job and J had been planning to dispose of it. J estimates that it would cost them ₹1,250 to dispose of the RM₁. Current replacement cost of RM₁ is ₹6,000.

Special job will require 250 hours of labour GL₁ and 100 hours of labour GL₂. J pays their GL₁ and GL₂ employees ₹630 and ₹336 respectively for 42 hours of work per week. J anticipates having excess capacity of 150 [GL₁] and 200 [GL₂] labour hours in the coming week. J can also hire additional GL₁ and GL₂ 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 J only costs for completing the special job. What is the *minimum price* that J should bid on this job?

(5 Marks)

- (b) A process industry unit manufactures three joint products: A, B and C. C has no realisable value unless it undergoes further processing after the point of separation. The cost details of C are as follows:

	Per Unit
	₹
Upto Point of Separation	
Marginal Cost	60
Fixed Cost	40
After Point of Separation	
Marginal Cost	30
Fixed Cost	10
	140

C can be sold at ₹ 74 per unit and no more.

- (i) Would you recommend production of C?
- (ii) Would your recommendation be different if A, B and C are not joint products?

(5 Marks)

- (c) Following information are extracted from monthly budgets of Q 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)

- (d) Answer the following independent situations relating to an assignment problem with a minimization objective:

- (i) Just after row and column minimum operations, we find that a particular row has 2 zeroes. Does this imply that the 2 corresponding numbers in the original matrix before any operation were equal? Why?
- (ii) Under the usual notation, where a_{32} means the element at the intersection of the 3rd row and 2nd column, we have, in a 4×4 assignment problem, a_{24} and a_{32} figuring in the optimal solution. What can you conclude about the remaining assignments? Why?

(5 Marks)

2. (a) Given below is an iteration in a simplex table for a maximization objective linear programming product mix problem for products Y_1 , Y_2 and Y_3 .

$C_j \rightarrow$			6	4	10	0	0	0
	Basic Variable	Quantity	Y_1	Y_2	Y_3	S_1	S_2	S_3
0	S_1	400	0	$4/3$	0	1	$-1/3$	0
6	Y_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 Y_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 Y_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, 2018, which reveals a loss of ₹ 17,000, detailed below:

	₹
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:

- 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.
- Because of low production, labour efficiency during the quarter is estimated to be 20% below normal level.

Required

Analyse the above and report to the management giving the reasons for the loss.
(8 Marks)

3. (a) A Company has two production departments S and W. Standards for the forthcoming year is as follows:

Particulars	Department S	Department W
Direct Labour Hours <i>available per period</i>	12,000	8,000
Standard Wage Rate <i>per hour</i>	₹ 3	₹ 2.5
Expected Learning Curve	80%	70%
Standard Variable Overheads <i>per hour</i>	₹ 10	₹ 6
Standard Fixed Overheads <i>per hour</i>	₹ 11	₹ 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 S. 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	₹ 36.00
200	₹ 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
S	10% of Labour & 15% Overhead Cost
W	

The company has received a special order. Special tooling costs of the order amount to ₹ 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 S and 4,200 direct labour hours in Department W.

Required

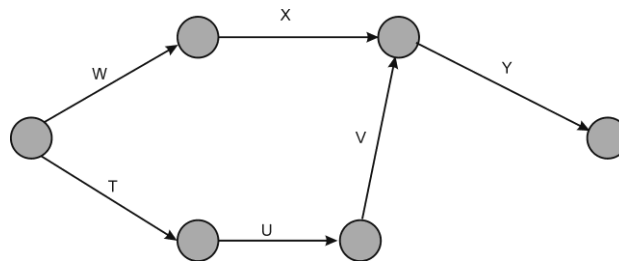
If the company decides to get the work executed entirely within the company, what price, on cost-plus basis, should be quoted for the order, if it consists of 100 Units, 200 units.
(12 Marks)

(b) State whether the learning curve theory can be applied to the following independent situations briefly justifying your decision:

- (i) 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.
- (ii) 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.
- (iii) 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)

4. (a) The following network and table are presented to you:



Activity	Normal Duration (Days)	Normal Cost (₹)	Crash Duration (Days)	Crash Cost (₹)
T	8	2,250	6	2,750
U	16	1,875	11	2,750
V	14	2,250	9	3,000
W	12	3,000	9	3,750
X	15	1,000	14	2,500
Y	10	2,500	8	2,860

Required

Perform step by step crashing and reduce the project duration by 11 days while minimizing the crashing cost. What would be the cost of the crashing exercise?

(8 Marks)

- (b) Venus Medical Care Co. (VMCC) is operating its entire business through its four customers V_1 , V_2 , V_3 , and V_4 . V_1 and V_2 are small pharmaceutical stores while V_3 and V_4 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 ₹20,250 of general administration costs to small pharmaceuticals stores and ₹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	₹750
Order Size	₹40,000	₹20,000	₹4,25,000	₹4,00,000	n/a
Average Discount	5%	10%	18%	12%	n/a
Regular Deliveries	4	9	6	3	₹375
Expedited Deliveries	2	0	2	0	₹1,250

(8 Marks)

5. (a) A company processes different products from a certain raw material. The raw material is processed in process I (where normal loss is 10% of input) to give products A and B in the ratio 3 : 2. B is sold directly. A is processed further in process II (where normal loss is 12.5% of output) to give products C and D in the ratio 5:3. At this point C and D have sale values ₹ 55 and ₹ 40 per kg respectively. C can be processed further in process III with processing cost ₹ 3,95,600 and normal wastage 5% of input and then be sold at ₹ 66 per kg. D can be processed further in process IV with processing cost ₹ 3,82,500 and normal wastage 12.5% of output and then be sold at ₹ 55 per kg. The normal wastage of each process has no realizable value. During the production period, 2,00,000 kgs of raw material is to be introduced into Process I.

Required

Advise whether sale at split off or further processing is better for each of the products C and D.

(6 Marks)

- (b) A company is planning a new product. Market research information suggests that 40,000 units of the product can be sold at a maximum of ₹ 25 per unit. The company seeks a minimum mark-up of 25% on product cost. It is estimated that the lifetime costs of the product will be as follows:

- (1) Research and development, design costs ₹1,50,000
- (2) Manufacturing costs ₹16 per unit
- (3) End of life costs ₹70,000
- (4) Promotion and capacity cost ₹20,000

Should the product be manufactured? COMMENT.

(4 Marks)

- (c) KTM Ltd., by using 12,00,000 units of a material M produces jointly 2,00,000 units of K and 4,00,000 units of T. The costs and sales details are as under:

	₹
Direct Material M @ ₹ 5 per unit.....	60,00,000
Other variable costs.....	42,00,000
Total fixed costs.....	18,00,000
Selling price of K per unit.....	25
Selling price of T per unit.....	20

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

Required

Find the minimum average unit price to be charged on K to sustain the increased sales.

(6 Marks)

6. (a) 'Mx' and 'Nx' are two customers of N Electronics Ltd., a manufacturer of audio players. Selling price per unit is ₹ 5,400. Its cost of production per unit is ₹ 4,420.

Additional costs are:

Order Processing Cost..... ₹2,000 per order

Delivery Costs..... ₹3,500 per delivery

Details of customers 'Mx' and 'Nx' for the period are given below:

	Customer 'Mx'	Customer 'Nx'
Audio Players purchased (nos.)	350	500

No. of orders	5 (each of 70 units)	10 (each of 50 units)
No. of deliveries	5	0

The company's policy is to give a discount of 5% on the selling price on orders for 50 units or more, and to further give 8% discount on the undiscounted selling price if a customer uses his own transport to collect the order. Assume that production levels are not altered by these orders.

Required

- (i) ANALYSE the profitability by comparing profit per unit for each customer.
- (ii) COMMENT on the discount policy on delivery. **(10 Marks)**
- (b) 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.

Required

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) Write a short note on the characteristics of the dual problem. **(4 Marks)**
- (c) Brief the principles associated with synchronous manufacturing. **(4 Marks)**
- (d) What qualitative factors should be considered in a decision to outsource manufacturing of a product? **(4 Marks)**
- (e) "Sunk cost is irrelevant in decision making, but all irrelevant costs are not sunk costs." Explain with examples. **(4 Marks)**