Test Series: October, 2019

MOCK TEST PAPER – 1

FINAL COURSE (OLD): GROUP – II

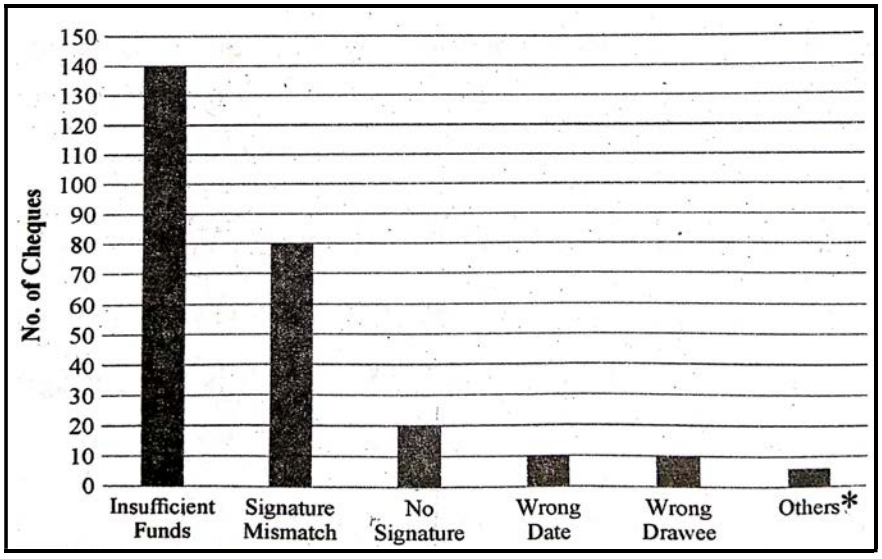
PAPER – 5: ADVANCED MANAGEMENT ACCOUNTING

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

Time Allowed – 3 Hours **Maximum Marks – 100**

1. (a) Sure Finance Limited offers retail customer finance products. The problem of inadequate recoveries has to be tackled and therefore the problem of dishonour of cheques received from customers needs to be analysed. The results are shown in the preliminary Pareto Chart below:

Problems with cheques received in 12 months' period.



* 'Others' are half the number for 'Wrong Drawee'

Required

(i) Construct a frequency table showing the defect types and the corresponding number of items and their defect percentage for constructing the Pareto Chart for defect types.

(ii) To what extent (in %) will the alertness clerical staff help resolve the problem? ***(5 Marks)***

(b) ANZ Ltd. implemented a quality improvement programme and had the following results:

Particulars	2017	2018
	(Figures in Rs. '000)	
Sales	6,000	6,000
Scrap	600	300
Rework	500	400
Production Inspection	200	240
Product Warranty	300	150
Quality Training	75	150
Materials Inspection	80	60

Required

(i) Classify the quality costs as prevention, appraisal, internal failure and external failure and express each class as a percentage of sales.

(ii) Compute the amount of increase in profits due to quality improvement.

(5 Marks)

(c) Zeland Limited, a manufacturing company has three divisions: Z, C and D. The company's all divisions are not performing well. Company wants to evaluate the potential closure of division "D". The cost and revenue information is given below:

	Division Z and C (Rs.)	Division D (Rs.)	Total (Rs.)
Sales	1,70,000	24,000	1,94,000
Less: Variable Cost	88,400	14,400	1,02,800
Contribution Margin	81,600	9,600	91,200
Less: Traceable Fixed Cost	66,000	12,200	78,200
Divisional Profit	15,600	–2,600	13,000
Less: Un-allocated Fixed Cost			5,000
Income Before Tax			8,000

Required

(i) Calculate the increase or decrease in the profit after closure of division "D" if all traceable fixed cost of division "D" are avoidable. Should the division "D" be closed?

(ii) Assume that traceable fixed cost of division "D" having 50% of staff salary can be reassigned to other divisions. What if the effect of closure of division "D" with this assumption? ***(5 Marks)***

(d) A transportation cost minimisation balanced quantity problem with Rows R_1, R_2, and R_3 and columns C_1, C_2, C_3 and C_4 has been attempted to have an initial feasible solution that is non-degenerate. Student A has done the Δ_{ij} matrix taking $u_1=0$ at R_1 and student B has done the Δ_{ij} matrix by taking $u_2 = 10$ at R_2.

(i) Will the $(u_i + v_j)$ matrix elements for both students A and B be the same? Why?

(ii) Will the Δ_{ij} matrix elements for both of them be the same? Why? ***(5 Marks)***

2. (a) 'Xu' and 'Yu' are two divisions of the Shenzhen group. The 'Xu' division manufactures electrical components which it sells to other divisions and external customers.

The 'Yu' division has designed a new product, Product B, and has asked 'Xu' 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 'Xu' to external customers. 'Xu' has quoted a transfer price to 'Yu' of Rs. 180 for each unit of Component A.

It is the policy of the Shenzhen 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:

'Xu' Division

Output	Component A will be produced in batches of 1,000 units. The maximum capacity is 6,000 components per month.
Variable Cost	Rs. 60 per component
Fixed Costs	Rs. 2,00,000 (these are incurred specifically to produce Component A)

'Yu' Division

Output	Product B will be produced in batches of 1,000 units. The maximum customer demand is 24,000 units of Product B per month.
Variable Cost	Rs. 36 per unit the cost of Component A
Fixed Costs	Rs. 3,00,000 (these are incurred specifically to produce Component B)

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

Demand	Selling Price per unit (Rs.)
1,000 units	480
2,000 units	440
3,000 units	400
4,000 units	360
5,000 units	320
6,000 units	268

Required

(i) Calculate, based on a transfer price of Rs. 180 per Component A, the monthly profit that would be earned as a result of selling Product B by:

'Xu' division, 'Yu' division, Shenzhen group

(ii) Calculate the maximum monthly profit from the sale of Product B for the Shenzhen group. ***(8 Marks)***

(b) Netcom Ltd. manufactures and sells a number of products. All of its products have a life cycle of less than one year. Netcom Ltd. uses a four stage life cycle model (Introduction, Growth, Maturity and Decline).

Netcom Ltd. has recently developed an innovative product. It was decided that it would be appropriate to adopt a market skimming pricing policy for the launch of the product.

However, Netcom Ltd. expects that other companies will try to join the market very soon.

This product is currently in the Introduction stage of its life cycle and is generating significant unit profits. However, there are concerns that these current unit profits will not continue during the other stages of the product's life cycle.

Required

Explain, with reasons, the changes, if any, to the unit selling price and the unit production cost that could occur when the products move from the previous stage into each of the following stages of its life cycle:

(i) Growth

(ii) Maturity ***(8 Marks)***

3. (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

(i) Is the above solution feasible?

(ii) Perform one more iteration with Y_2 entering the solution to get a solution with the same value for the objective function.

(iii) Indicate the shadow prices.

(iv) 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?

(v) From the given table, derive any one original constraint inequality with the coefficients of variables in their simplest whole number forms. ***(8 Marks)***

(b) Star Fitness is a family owned fitness club, founded in 2013 by Fiona and Sandy with traditional style equipment. Club commenced operations in February 2014 within a shopping mall so that members after working out, can conveniently shop, dine, pick up their children from enrichment classes or go to the cinema.

Fiona and Sandy, the owners, pride themselves for providing a customized / tailored program by taking into account a person's medical history, present fitness level, fitness goals, fitness interests and offer many other small amenities that might be difficult to get in a larger Fitness Centre. They believe –

"Each individual is unique and requires a specialized program plan which should be customized and tailored to his/her needs."

They have a number of loyal members even though it offers the traditional style equipment.

Fiona and Sandy take care of most of the routine operations, along with a small permanent staff, and temporary staff.

Required

(i) Identify at least three critical success factors for Star Fitness.

(ii) Construct a Balance Scorecard for Star Fitness. *(2 measures for each of the 4 perspectives are sufficient)* ***(8 Marks)***

4. (a) The following information is available:

Activity	No. of days	No. of Men Required per Day
A (1–2)	4	2
B (1–3)	2	3
C (1–4)	8	5
D (2–6)	6	3
E (3–5)	4	2
F (5–6)	1	3
G (4–6)	1	7

Required

(i) Draw the network and find the critical path.

(ii) What is peak requirement of Manpower? On which day(s) will this occur?

(iii) If the maximum labour available on any day is only 10, when can the project be completed?

Note: use time scale diagram ***(10 Marks)***

(b) The standard cost of a certain chemical mixture is as under:

40% of Material A @ Rs. 30 per kg

60% of Material B @ Rs. 40 per kg

A standard loss of 10% of input is expected in production. The following actual cost data is given for the period.

350 kg Material – A at a cost of Rs. 25

400 kg Material – B at a cost of Rs. 45

Actual weight produced is 630 kg.

Required

Calculate the following variances raw material wise and indicate whether they are favorable (F) or adverse (A).

(i) Price Variance, (ii) Mix Variance, (iii) Yield Variance

(6 Marks)

5. (a) Woodcraft Manufacturers Ltd. (WML) is specialist in the manufacturing of Industrial Products. They manufacture and market two types of products under the name 'X' and 'Y'. Company produces two products from three basic raw materials 'A', 'B', and 'C'. 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 5th period* (Kg)		Lead Time in Working Days
				On Hand	On Order	
A	Rs. 1.50	90,000	72,000	96,000	90,000	10
B	Rs. 3.00	30,000	45,000	54,000	-	25
C	Rs. 1.50	60,000	60,000	84,000	60,000	20

Past experience has shown that adequate inventory levels for 'X' and 'Y' 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		
	A	B	C	At the end of current (5th) period	6th Period	7th Period	8th Period
	Kg	Kg	Kg	Units	Units	Units	Units
X	1.25	0.50	-	18,000	45,000	52,500	57,000
Y	2.00	-	1.50	16,800	42,000	27,000	24,000

The sales of 'X' and 'Y' do not vary significantly from month to month. Consequently, the safety stock incorporated into the reorder point for each of the raw materials in 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. WML's suppliers are very trustworthy so that the given lead times are reliable.

The outstanding orders for raw materials 'A' and 'C' 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.

Required

Determine the following items for raw materials 'A', 'B', and 'C' for inclusion in the 6th period report to management:

(i) Projected quantities (in Kg) to be issued to production.

(ii) Projected quantities (in Kg) ordered and the date (in terms of working days) the order is to be placed.

(iii) The projected inventory balance (in Kg) at the end of the period.

(iv) The payments for purchases with due date. ***(10 Marks)***

(b) State whether each of the following independent activities is value-added or non-value-added:

(i) Polishing of furniture used by a systems engineer in a software firm.

(ii) Maintenance by a software company of receivables management software for a banking company.

(iii) Painting of pencils manufactured by a pencil factory.

(iv) Delivering Packages by a delivery service.

(v) Providing legal research for legal services.

(vi) Too long or insufficient set up times ***(6 Marks)***

6. (a) The cost and sales data of Mould Industries. For the first half of the year 2018 are as follows:

Particulars	P	Q	R	S	Total
Output in units	900	1,400	700	500	3,500
Sales Price *per unit* (Rs.)	200	80	48	140	×
Per unit cost (Rs.)					
Direct Materials	82	38	21	58	×
Direct Labour @ 3/ hour	24	11	6	16	×
Variable Overheads	10	5	3	8	×

Fixed Overheads are Rs. 40,800 for first half of the year and evenly distributed in second half of the year. The free capacity of any product may be utilised by other product.

The demand for company's products are increasing day by day. It is expected that in the second half of the year, the company will be able to increase the total output by 5% which could be any one or all the products.

An associate company has offered to supply 200 units of Q in the second half of the year at 90% of the selling price fixed by Mould Industries. Mould Industries will incur an amount equivalent to 2% of selling price of Q as handling charges to market the aforesaid quantity in its brand name. In that case Mould Industries will be able to produce product P in place of purchased quantity of product Q.

Required

(i) Prepare a statement of profit for the first half of 2018.

(ii) Select the best product for utilisation of additional 5% capacity and calculate the total profit resulting from the increased capacity utilisation.

(iii) Evaluate the proposal to buy Q from the associate company to increase the production of P.

(iv) Which of the products should be purchased from the associate company on subcontract at 90% of selling price with 2% handling charges to maximise profits? ***(12 Marks)***

(b) What are the various factors that help use of learning curve technique to take managerial decision in areas of marketing, make or buy, introduction of new product? ***(4 Marks)***

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

(a) 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 Rs. 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 Rs. 1,50,000

(2) Manufacturing costs Rs. 16 per unit

(3) End of life costs Rs. 70,000

(4) Promotion and capacity cost Rs. 20,000

Required

Should the product be manufactured? ***(4 Marks)***

(b) State whether and why the following statements are valid or not valid:

(Statements need not be copied into answer book.)

(i) Target costing is not applicable to a monopoly market.

(ii) Target costing ignores non-value added activities. ***(4 Marks)***

(c) Classify the following items appropriately under the three measures used in the Theory of constraints:

(i) Research and Development Cost

(ii) Rental Utilities

(iii) Finished goods inventory

(iv) Depreciation

(v) Labour Cost

(vi) Stock of Raw Materials

(vii) Sales

(viii) Cost of equipment and buildings ***(4 Marks)***

(d) There are three input materials P, Q and R in a process. The overall material mix variance and the mix variance of P are favourable. What can you conclude about the nature of mix variances of Q and R? Why? ***(4 Marks)***

(e) In a 3×4 transportation problem for minimizing costs, will the R_2C_1 cell (at the intersection of the 2nd row and 1st column) always figure in the initial solution by the North West Comer Rule? Why? ***(4 Marks)***