Test Series: March, 2018

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) "North Garden" is an exclusive resort located in a famous Island of Pacific Ocean that vows to isolate its guests from the hustle and bustle of everyday life. Its leading principle is "all contemporary amenity wrapped in old-world charisma". Each of the resort's 18 villas has a separate theme like Castle, Majestic, Ambassador, Royal Chateau, Coconut, Lemon, Balinese etc and guests often ask for a specific villa when they make reservations. Villas are Ideal for families or friends travelling together and these villas feature luxurious accommodation spanning two floors. Since it is located within a 300-acre estate on white sand beach, the resort offers its guests a wide variety of outdoor activities such as horseback riding, hiking, diving, snorkeling, sailing, golf and so on. Guests could also while away the day relaxing in the pool and availing themselves of the resort's world-famous spa "Garden Spa". The dining room, which only has three tables for the public, is acceptable proud of its 4-star rating.

Required

Develop a balanced scorecard for "North Garden". It is sufficient to give two measures in each of the four perspectives. ***(5 Marks)***

(b) A firm needs a component in an assembly operation. If it wants to do the manufacturing itself, it would need to buy a machine for ₹ 4 lakhs which would last for 4 years with no salvage value. Manufacturing costs in each of the four years would be ₹ 6 lakhs, ₹ 7 lakhs, ₹ 8 lakhs and ₹ 10 lakhs respectively. If the firm had to buy the component from a supplier the component would cost ₹ 9 lakhs, ₹ 10 lakhs, ₹ 11 lakhs and ₹ 14 lakhs respectively in each of the four years.

However, the machine would occupy floor space which could have been used for another machine. This latter machine could be hired at no cost to manufacture an item, the sale of which would produce net cash flows in each of the four years of ₹ 2 lakhs; it is impossible to find room for both the machines and there are no other external effects. The cost of capital is 10% and P/V factor for each of the 4 years is 0.909, 0.826, 0.751 and 0.683 respectively.

Required

Should the firm make the component or buy from outside? ***(5 Marks)***

(c) An agriculturist has a farm with 125 acres. He produces Radish, Mutter and Potato. Whatever he raises is fully sold in the market. He gets ₹ 5 for Radish per kg ₹ 4 for Mutter per kg and ₹ 5 for Potato per kg. The average yield is 1,500 kg of Radish per acre, 1,800 kg of Mutter per acre and 1,200 kg of Potato per acre. To produce each 100 kg of Radish and Mutter and to produce each 80 kg of Potato, a sum of ₹ 12.50 has to be used for manure. Labour required for each acre to raise the crop is 6 man days for Radish and Potato each and 5 man days for Mutter. A total of 500 man days of labour at a rate of ₹ 40 per man day are available.

Required

Formulate this as a Linear Programming model to maximize the Agriculturist's total profit.

(5 Marks)

(d) Under the single plan, record the journal entries giving appropriate narration, with indication of amounts of debits or credits alongside the entries, for the following transactions using the respective control A/c.

(i) Material price variance (on purchase of materials)

(ii) Material usage variance (on consumption)

(iii) Labour rate variance. ***(5 Marks)***

2. (a) A company produces a product X, using raw materials A and B. The standard mix of A and B is 1: 1 and the standard loss is 10% of input.

You are required to compute the missing information indicated by "?" based on the data given below:

	A	B	Total
Standard price of raw material (₹ / kg.)	24	30	
Actual input (kg.)	?	70	
Actual output (kg.)			?
Actual price ₹ / kg.	30	?	
Standard input quantity (kg.)	?	?	
Yield variance (sub usage)	?	?	270(A)
Mix variance	?	?	?
Usage variance	?	?	?
Price variance	?	?	?
Cost variance	0	?	1,300(A)

(12 Marks)

(b) In a transportation problem for cost minimization, there are 4 rows indicating quantities demanded and this totals up to 1,200 units. There are 4 columns giving quantities supplied. This totals up to 1,400 units. What is the condition for a solution to be degenerate? ***(4 Marks)***

3. (a) The number of days of total float (TF), earliest start times (EST) and duration in days are given for some of the following activities.

Activity	TF	EST	Duration
1–2	0	0	???
1–3	2	???	???
1–4	5	???	???
2–4	0	4	???
2–5	1	???	5
3–6	2	12	???
4–6	0	12	???
5–7	1	???	???
6–7	???	23	???
6–8	2	???	???
7–8	0	23	???
8–9	???	30	6

Required

(i) Find??? Figures.

(ii) Draw the network.

(iii) List the paths with their corresponding durations and state when the project can be completed. ***(10 Marks)***

(b) The profit for the year of S Ltd. works out to 12.5% of the capital employed and the relevant figures are as under:

	₹
Sales……	5,00,000
Direct Materials……	2,50,000
Direct Labour……	1,00,000
Variable Overheads……	40,000
Capital Employed……	4,00,000

The new Sales Manager who has joined the company recently estimates for next year a profit of about 23% on capital employed, provided the volume of sales is increased by 10% and simultaneously there is an increase in Selling Price of 4% and an overall cost reduction in all the elements of cost by 2%.

Required

Find out by computing in detail the cost and profit for next year, whether the proposal of Sales Manager can be adopted. ***(6 Marks)***

4. (a) G is a publishing firm that started operations very recently. The firm has published "Advanced Learner's Dictionary" this first year, that have been sold to 3 distributors P, M and W. The firm's financials reflect profits in its first year of operations. The management is pleased with the results. However, they are interested in finding out how profitable each customer is. This would help them formulate their sales strategy.

Particulars	P	M	W
Sales units p.a.	1,000	950	1,250
Sale price (gross)	250	250	250
Payment terms	3/10 net 30	net 30	3/10 net 30
Sales returns	0.5%	0%	10%
Delivery terms	FOB destination	FOB destination	FOB shipping point

In order to get market share, P and W have been extended credit terms to avail discount if payment is made within 10 days. Customer M does not have much bargaining power and hence has been allowed only 30 days' credit period without any benefit of availing discount for early payment. Both P and W have made payments within 10 days to avail of the discount extended.

On the cost front, variable cost of goods sold is ₹150 per unit. Key metrics of customer assignable marketing, administrative and distribution costs are as below:

Activity	Activity Driver	No. of Units of Activity Driver			Cost Driver (₹)
		P	M	W	
Order taking and processing	# of orders	4	2	15	300
Expedited / rush orders	# of orders	1	-	5	250
Delivery costs	# distance in km.	100	50	-	80

Sale return processing	# of returns	1	-	8	150
Billing cost	# of invoices	4	2	15	50
Customer visit	# of visits	1	-	5	800
Inventory carrying cost *	# 1 per unit	1,000	950	1,250	10

** Assume no opening and closing stock*

Fixed cost that are not assignable to any customer is ₹ 1,00,000 p.a.

Required

Prepare the customer wise profitability statement as also the overall profitability statement of G. ***(11 Marks)***

(b) Z manufactures surveillance camera equipment that are sold to various office establishments. The firm also installs the equipment at the client's place to ensure that it works properly. Each camera is sold for ₹ 2,500. Direct material cost of ₹ 1,000 for each camera is the only variable cost. All other costs are fixed. Below is the information for manufacturing and installation of this equipment:

Particulars	Manufacture	Installation
Annual Capacity (camera units)	750	500
Actual Yearly Production and Installation (camera units)	500	500

Required

Identify the bottleneck in the operation cycle that Z should focus on improving. Give reasoning for your answer. ***(5 Marks)***

5. (a) The chief officer at manufacturing plant of Boeing 737-MAX aircraft observed that workers performing manufacturing operations at the plant showed signs of a definite learning pattern. He noted that most aircraft manufacturing tasks experienced what he called an 80 percent learning rate, meaning that workers need 20 percent fewer hours to make a part each time their cumulative experience making that part doubled. Thus, if the first part took 100 minutes, the second would require 80 minutes, the fourth would require 64 minutes, and so on. Accordingly, he requires calculating the time required for parts 41 to 60. [Note: learning coefficient is -0.322 for learning rate of 80%, log2=0.30103, log3=0.47712, log5=0.69897, Antilog of 1.484 =30.48, Antilog of 1.4274 =26.75] *(6 Marks)*

(b) STC travel agency specializes in flights between Delhi to Bangalore. It books passengers on Kangaroo Airlines at ₹ 9,000 per round-trip ticket. Until last month, Dolphin paid STC a commission of 10% of the ticket price paid by each passenger. This commission was STC's only source of revenues. STC'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 Z- Express. (₹ 150 delivery fee applies to each ticket).

Kangaroo 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 STC's sell each month (a) to break-even and (b) to earn an operating income of ₹ 70,000.

(ii) How does Kangaroo revised payment schedule affect your answers to (a) and (b) in requirement (i)? ***(10 Marks)***

6. (a) Division Z is a profit center which produces four products A, B, C and D. Each product is sold in the external market also. Data for the period is:

Product D can be transferred to Division Y, but the maximum quantity that may be required for transfer is 2,500 units of D.

	A	B	C	D
Market price per unit (₹)	150	146	140	130
Variable cost of production per unit (₹)	130	100	90	85
Labour hours required per unit	3	4	2	3

The maximum sales in the external market are:

A 2,800 units

B 2,500 units

C 2,300 units

D 1,600 units

Division Y can purchase the same product at a price of ₹ 125 per unit from outside instead of receiving transfer of product D from Division Z.

Required

What should be the transfer price for each unit for 2,500 units of D, if the total labour hours available in Division Z are 20,000 hours? ***(10 Marks)***

(b) S manufactures standard heavy duty steel storage racks for industrial use. Each storage rack is sold for ₹750 each. The company produces 10,000 racks per annum. Relevant cost data per annum are as follows:

Cost Component	Budget	Actual	Actual Cost p.a. (₹)
Direct Material	5,00,000 sq. ft.	5,20,000 sq. ft.	20,00,000
Direct Labour	90,000 hrs.	1,00,000 hrs.	10,00,000
Machine Setup	15,000 hrs.	15,000 hrs.	1,50,000
Mechanical Assembly	200,000 hrs.	200,000 hrs.	30,00,000

The actual and budgeted operating levels are the same. Actual and standard rates of material procurement and hourly labor rate are also the same. Any variance in cost is solely on account of difference in the material usage and hours required to complete production. Aggressive pricing from competitors has driven down sales. A comparable rack is available in the market for ₹ 675 each. V, the marketing manager has determined that in order to maintain the company's existing market share of 10,000 racks, S must reduce the price of each rack to ₹ 675.

Required

Calculate the current cost and profit per unit. Identify the non-value added activities in the production process.

Calculate the new target cost per unit for a sales price of ₹ 675 if the profit per unit is maintained.

(6 Marks)

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

(a) Pick out from each of the following items, costs that can be classified under 'committed fixed costs' or 'discretionary fixed costs".

(i) Annual increase of salary and wages of administrative staff by 5% as per agreement

(ii) New advertisement for existing products is recommended by the Marketing Department for achieving sales quantities that were budgeted for at the beginning of the year.

(iii) Rents paid for the factory premises for the past 6 months and the rents payable for the next six months. Production is going on in the factory.

(iv) Legal consultancy fees payable for patent rights on a new product Patenting rights have been applied for. ***(4 Marks)***

(b) F is a news reporter and feature writer for an economic daily. Her assignment is to develop a feature article on 'Product Life-Cycle Costing', including interviews with the Chief Financial Officers (CFO) and Operating Managers. F has been given a liberal budget for travel so as to research into company's history, operations, and market analysis for the firm she selects for the article.

Required

F has asked you to recommend industries and firms that would be good candidates for the article. What would you advice? Explain your recommendations. ***(4 Marks)***

(c) 6,000 pen drives of 2 GB to be sold in a perfectly competitive market to earn ₹ 1,06,000 profit, whereas in a monopoly market only 1,200 units are required to be sold to earn the same profit. The fixed costs for the period are ₹ 74,000. The contribution per unit in the monopoly market is as high as three fourths its variable cost. Determine the targets selling price per unit under each market condition. ***(4 Marks)***

(d) ABC Ltd. is planning to introduce Kaizen Costing approach in its manufacturing plant. State whether and why the following are valid or not in respect of Kaizen Costing.

(i) VP(Finance) is of the view that company has to make a huge initial investment to bring a large scale modification in production process.

(ii) Head (Personnel) has made a point that introduction of Kaizen Costing does not eliminate the training requirement of employees.

(iii) General Manager (Manufacturing) firmly believes that only shop floor employees and workers' involvement is prerequisite of Kaizen Costing approach.

(iv) Manager (Operations) has concerns about creation of confusion among employees and workers regarding their roles and degradation in quality of production. ***(4 Marks)***

(e) An Electronic Data Processing (EDP) centre has three expert Software professionals. The Centre wants three application software programs to be developed. The head of EDP Centre estimates the computer time in minutes required by the experts for development of Application Software Programs as follows-

Software Programs	Computer Time (in minutes) Required by Software Professionals		
	A	B	C
1	100	85	70
2	50	70	110
3	110	120	130

Required

Assign the software professionals to the application software programs to ensure minimum usage of computer time. ***(4 Marks)***