

MOCK TEST PAPER – 1

FINAL COURSE: GROUP – II

PAPER – 5: STRATEGIC COST MANAGEMENT AND PERFORMANCE EVALUATION

Question No. 1 is compulsory

*Answer any **four** questions from the remaining **five** questions*

Time Allowed – 3 Hours

Maximum Marks – 100

1. KPA, a US based MNC, started its Indian operations with opening of few stores in its nascent phase. In recent times, it started running nationwide stores in India selling range of home-based products right from home improvement tools, decors, electronic appliances to small kitchen utilities like steel pans, nonstick dishes, kitchen organizers, knives, cardboards, countertop stickers, ice cream molds, chocolate molds and alike. It had gained wide popularity particularly among the ladies' group of India since its expansion of the product line. Previously it was selling just the intermittently purchased home-based products like furniture and appliances. It was the extended accessibility to daily utilities that elated the ladies' group about visiting the stores. Some women referred KPA as the one stop search for all their necessities.

KPA manufactured some of the products rather than making an outright purchases and sales thereof of all its products. To make various kinds of furniture and kitchen based small utilities, it derived its raw materials directly from local market which were mostly the recycled materials like plastics, scrapped items, used furniture and alike rather than the raw wood, forest products and firsthand products. Its raw materials were therefore capable of generating various forms of work in progress. The work in progress and finished product relation worked in similar fashion. From a particular WIP, it was capable of generating multiple outputs. Therefore, the firm kept its material cost low and primarily relied on the recycling process, thereby keeping up its pledge to serve the environment.

For the in-house manufactured products, the materials department of the firm functioned in the below manner:

- 1) The manager of the department kept a watch on each type of inventory levels in the warehouse.
- 2) He then estimated the required production based on historical demand and long-term forecasting policies of the firm.
- 3) A room was also left for safety stock so that any unforeseen delay in delivery of the goods could be covered.
- 4) Based on the existing inventory and production plans and safety stocks, inventory replenishment levels were calculated.
- 5) Once the stock reached its reordering level, an order to replenish the stock was being sent to the vendor.
- 6) Based on departmental orders, vendor delivered the materials.

To manufacture the finished products i.e., to convert raw material to finished good, the intervening time was 3 weeks. It will take approximately take 4 weeks to deliver the in-house manufactured product from the time order is received. The standard lead time of similar products in industry is 2.5 weeks.

For products purchased out-rightly, a purchase order was prepared by the purchasing department based on the inventory in hand and expected demand. Some of those products did show a sketchy demand pattern, with surge in demand for lame reasons. However, the department did not take into account safety stocks for any of these purchased products, since the cost to maintain such inventories

were high and the costs of these products itself were high enough. The problem however was failure to meet surprise orders or sudden increase in demand.

People were getting busier and there was hardly any time to procrastinate buying things they need until they could visit the stores based on their availability. Moreover, it was just the metro cities, that had overwhelming number of stores, but states like Gujarat and Odisha remained an untapped target with very few stores only in the developed parts of the cities. KPA's agenda was not just to add more variety to its existing offerings, but to reach people all around the country since it perceived manifold needs were yet unmet.

Going digital was a challenge since its popularity was limited to its store locations and therefore it was dubious of its acceptability among the nationwide customers. It was prepared for an extensive marketing of its digital channels though and funds were not a problem. Having heard about the peaking demand of businesses for E Customers, it was supportive of the idea and considered to follow the suit.

From its US operations, it was very well aware about the expectations of its E Customers and the quality of service they desire from their E Sellers. They tend to be progressively demanding and expect their orders to be processed in couple of hours after being placed. They do not want to grapple with the tracking information of their package. They need real time update of their package location so that there are no abrupt surprises about the delivery time and the condition of the package. They like to purchase from E Sellers who offers competitive prices accompanied with free shipping and on time delivery. That is all too much for a developing market like India.

The labor cost is relatively low in India but the infrastructure is not adequately sound to guarantee the same level of service at their expected prices. Indian market is not similar to the US market, there being an immense cultural gap. The income of the middle-class people is also not remarkably high and hence they can spend sparingly on things that are not paramount on their list. Kitchen items though marked as "necessities" by the women section of the society were not real necessities in economic sense. Hence the firm thought of applying the paradigms of Target Costing to set the prices of their online products such that they remain competitive before their E Customers.

The firm also needs a flawless Supply Chain Management (SCM) System in Indian environment, but the back-office team of the firm had little knowledge about this aspect of the E Commerce project and it did not see the light of the day. Now they need you to help them shape up the SCM look of KPA.

Required

Given the facts of KPA, answer the following questions:

- (i) DISCUSS the suitability of Target Costing concept to KPA? **(3 Marks)**
 - (ii) Critically ASSESS its current inventory management system and RECOMMEND suitable changes in light of its business strategy. **(3+5 Marks)**
 - (iii) ADVISE the SCM look for KPA as per their requirement. **(9 Marks)**
2. Generation X Technologies Ltd. develops cutting-edge innovations that are powering the next revolution in mobility and has nine tablet smart phone models currently in the market whose previous year financial data is given below:

Model	Sales (₹'000)	Profit-Volume (PV) Ratio
Tab - A001	5,100	3.53%
Tab - B002	3,000	23.00%
Tab - C003	2,100	14.29%
Tab - D004	1,800	14.17%
Tab - E005	1,050	41.43%

Tab - F006	750	26.00%
Tab - G007	450	26.67%
Tab - H008	225	6.67%
Tab - I009	75	60.00%

Required

- (i) Using the financial data, carry out a Pareto ANALYSIS (80/20 rule) of Sales and Contribution.

(8 Marks)

- (ii) DISCUSS your findings with appropriate RECOMMENDATIONS.

(12 Marks)

3. Casting X Limited is a company engaged in the manufacture and supply of forgings and castings for automotive and industrial applications. Automotive contributes to 60% of its revenues while the balance (40%) can be traced to industrial applications which amongst others include, Power, Oil and Gas and General Engineering. The company has an R&D set-up which includes new product development. The company recently concluded successfully a Long-Term Settlement with the workmen with an increase in productivity numbers in terms of output per man per day more than offsetting the increase in wages offered to workmen. The company has just completed (October 2022) its strategy and business planning exercise for Calendar year 2023 and beyond. The following is the data on 2022 (estimate) and the business plan for 2023.

Balance Sheet	Estimate 2022	Budget 2023
	₹ Million	₹ Million
Equity	3,000	3,000
Reserves (Opening)	1,000	2,250
Transfer (Current year surplus)	1,250	730
Debt @10% (pre-tax)	2,000	1,500
Trade Creditors	600	700
Total	7,850	8,180
Plant and Machinery	4,000	3,500
Inventories	1,500	1,630
Debtors	1,600	1,770
Cash	750	1,280
Total	7,850	8,180
Profit and Loss Account		
Sales	9,000	10,800
Less: Expenses	6,000	7,000
Less: Depreciation	500	500
Less: Interest	200	200
Profit	2,300	3,100
Less: Tax @ 30%	690	930
Profit After Tax	1,610	2,170
Less: Dividend and Dividend Distribution Tax	360	1,440
Transfer to Reserves	1,250	730

Assumptions/objectives drawn up in the making of the strategy and business plan document are as follows:

1. To improve shareholder value by attempting to grow EVA substantially over 2022.

2. To de-risk exposure to few sectors further by looking at other diverse applications through new technologies, tie-ups etc. This could be in the areas of Defense and Aerospace or even new areas like Electric Vehicles which would be the future in the mobility space.
3. To keep investing in R&D to ensure that the company keeps pace with changes in technologies and in meeting customer requirements by developing new products in accordance with their needs
4. Financials:
 - a. An increase of 20% in Sales has been assumed over 2022. This includes an expected market growth of 12%, 3% from a new product "NP" to a large manufacturer (a new customer) for 9 months in 2023. It is expected that the new customer will approve the product by March 2023 (3 months from January 2023 when the approval process will start) so that 9 months sale can be realized. It normally takes 5 months for the approval. The company expects the balance 5% growth from normal new products, new customers, improved service levels in terms of delivery etc. Capacity is sufficient, also aided by the productivity improvement from the Long-Term Settlement with the workers.
 - b. Inventories: A reduction in number of days inventory held by 5 days has been budgeted. Without this reduction, the inventories would have been ₹ 1,800 Million as against ₹ 1,630 Million budgeted.
 - c. Debtors: A reduction in number of days sales outstanding by 5 days has been budgeted. Without this reduction, the debtors would have been ₹ 1,900 Million as against ₹ 1,770 Million budgeted.
 - d. Expenses have been budgeted at ₹ 7,000 Million taking into consideration cost savings. It should have been ₹ 7,500 Million taking into consideration, increased activity levels (Sales), cost inflation including the wage increase from the Long-Term Settlement but without cost savings.
 - e. No reduction or increase in creditors budgeted except for the increase in activity levels (Sales).
 - f. Repayment of debt ₹ 500 Million on 31st Dec 2023.

Required

Your superior, the CFO of the company has asked you to:

- (i) PREPARE a Balanced Score Card for Calendar year 2023 including objectives to be included for achieving long term goals of the company. He informs you that the company wants to use EVA as an overall performance measure and a driver to achieve improved shareholder value. **(8 Marks)**
 - (ii) The CFO also wants you to indicate metrics where possible and but ignore weightages for the perspectives and clearly EXPLAIN the inclusion of the objectives in each perspective of the balance score card. **(8 Marks)**
 - (iii) You have therefore been also entrusted with the task of PREPARING the Economic Value Added (EVA) with assumptions for the previous year 2022 (estimate) and also for the budget year 2023 and ensure that this forms the predominant basis for the balanced scorecard. Cost of Equity is 14%. **(4 Marks)**
4. (a) STATE whether and why the following statements are valid or not valid:
- (i) Target costing is not applicable to a monopoly market.
 - (ii) Target costing ignores non-value added activities. **(5 Marks)**

- (b) 'N' manages the school canteen (approximately 1,600 students) at Noida. The current cash payment system requires three clerks (each paid ₹90 per hour), employed for about 4 hours a day. The canteen operates approximately 240 days a year.

'N' is considering a Wireless Cash Management System (WCMS), where a student could just swipe an ID Card for payment. This system would cost ₹1,25,000 to setup and ₹36,000 per year to operate. 'N' believes that he could manage with one clerk if he were to implement the system.

Required

ADVISE 'N' on the choice of a plan, assuming working life of WCMS as 5 years. (Ignore the time value of money) **(5 Marks)**

OR

Sunny Ltd. has developed a new product which is about to be launched into the market. The variable cost of selling the product is ₹ 17 per unit. The marketing department has estimated that at a sale price of ₹ 25, annual demand would be 10,000 units. However, if the sale price is set above ₹ 25, sales demand would fall by 500 units for each ₹ 0.50 increase above ₹ 25. Similarly, if the price is below ₹ 25, demand would increase by 500 units for each ₹ 0.50 stepped reduction in price below ₹ 25.

Required

DETERMINE the price which would maximise Sunny Ltd.'s profit in the next year. **(5 Marks)**

- (c) Division X and Y are two divisions of ZIOMI Ltd., which operates as profit centres. Division X makes and sells product X. The budgeted Income statement of Division X, based on a sales volume of 30,000 units, is given below:

Budgeted Income Statement of Division X

Particulars	₹ In '000
Sales Revenue	6,000
Component purchase costs	1,050
Other variable costs	1,680
Fixed costs	480
Variable marketing costs	270
Fixed marketing overheads	855
Operating profit	1,665

The manager of Division X suggests that sales can be increased by 9,600 units, if the selling price is reduced by ₹ 20 per unit from the present price of ₹ 200 per unit and that for this additional volume, no additional fixed costs will be incurred.

Division Y makes a component Y which is sold outside at a price of ₹ 50 per unit.

Division X presently uses a component which is purchased from outside at ₹ 35 per unit. This component is similar to component made by Division Y. Division Y can make this component for Division X with a minor modification in specification which would cause reduction in direct material cost for the Division Y by ₹ 1.5 per unit and would require extra labour hour of 1 per unit at the rate of ₹ 1.5 per hour.

Further the Division Y will not incur variable selling marketing cost on units transferred to the Division X. Division X's manager has offered to buy the component from Division Y at ₹ 25.00 per unit. Division Y has the capacity to produce 85,000 units.

The current budgeted information of Division Y are as follows:

Number of units sold outside 60,000 units @ ₹ 50 per unit, variable cost including material and labour ₹ 15 per unit, variable marketing cost ₹ 3 per unit, operating profit ₹ 12,00,000 and fixed overheads ₹ 7,20,000.

Required

- (i) Should the Division X reduce the selling price by ₹ 20 per unit even if it is not able to procure the component from Division Y at ₹ 25 per unit? **(4 +1 Marks)**
- (ii) Should the Division Y be willing to supply 39,600 units to Division X at ₹ 25 per unit? **(3+2 Marks)**

COMMENT with appropriate calculations.

5. (a) A company has sales of 1,00,000 units at a price of ₹ 150 per unit and profit of ₹ 30 lakhs in the current year. Due to stiff competition, the company has to reduce its price of product next year by 8% to achieve same volume of sales as in the current year. The cost structure and profit for the current year is given below:

Particulars	(₹ Lakhs)
Direct material	50
Direct wages	30
Variable factory overhead	15
Fixed overheads including Sales & Admin. Expenses	25
Total cost	120

To achieve the target cost to maintain the same profit, the company is evaluating the proposal to reduce the labour cost and fixed factory overhead. A vendor supplying the machine suitable for the company's operations has offered an advanced technology semi-automatic machine of ₹ 10 lakhs as replacement of old machine worth ₹ 3 lakhs. The vendor is agreeable to take back the old machine at ₹ 2.25 lakhs only. The company's policy is to charge depreciation at 10% on WDV. The maintenance charge of the existing machine is ₹ 0.80 lakhs per annum whereas there will be warranty of services free of cost for the new machine for first two years. There are 9 supervisors whose salary is ₹ 1.20 lakhs each per annum. The new machine having conveyor belt is expected to help in cost cutting measures in the following ways:

- (1) Improve productivity of workers by 25%.
- (2) Cut down material wastage by 1%.
- (3) Elimination of services of supervisors because of automatic facilities of the machine.
- (4) Saving of packaging cost by ₹ 1.35 lakhs.

Required

Assuming cost of capital to be 12%, CALCULATE how many supervisors should be removed from the production activities to achieve the target cost. **(10 Marks)**

- (b) Established in the year 1998, Exceptional Woodcraft Limited (EWPL) is one of the distinguished manufacturers and suppliers of an unlimited array of Wooden Furniture Items. Product compilation comprises of Modular Furniture, Workstations, and Cafeteria Furniture. Moreover, it is also

engaged in presenting Furniture Services that include Interior Fit Out, Office Interiors and Corporate Interior Designing. Since inception, it has strived to proffer an excellent blend of optimum quality and price, and successfully established the company as the preferred choice of customers in the past years. This is the reason that its products and services are applauded in the industry for its flawlessness.

At EWPL, a world-class infrastructure is set up with different types of latest technology based machines and equipment, which provide great support in hassle-free production and storage of the proffered assortment. Besides the spacious workspace, it has recruited a team of skilled and experienced professionals, who are magnificently trained to understand and meet the diverse client requirements within the committed time period. It aims to attain complete client satisfaction and put in its best efforts to achieve the same by offering outstanding product range & feasible services.

EWPL's Budgeting Process for Sales

- 1) Each salesgirl makes a customer-wise listing of sales for the last few years. Based on this information and her knowledge about customer's requirements, she determines an overall sales goal.
- 2) The sale manager, W Robert, gathers all this information and modifies it a bit. Particularly, W looks at variance in sales growth and modifies low projections to be in line with the average. He, of course, discusses this correction with the concerned salesgirl. The usual approach is to hold up the other forecasts and attribute lack of sales growth to lower talent.
- 3) W then meets with J Donald, Managing Director. By this time, J already back out of his sales expectations for next year based on his desired profit. J discusses the overall target with the W. The usual result is a 7% to 10% increase in projected sales, which the W allocates among the salesgirls based on their past performance.
- 4) Of course, J desires that the W discuss and negotiate any alteration with the sales force. He believes that with appropriate logics, not high but attainable targets for his sales team can be met.

Required

- (i) DISCUSS the participative nature of the sales budgeting process at EWPL.
 - (ii) ADVISE on best approach from EWPL's perspective that may be adopted. **(4+6 Marks)**
6. (a) **AB Compounds**, is engaged in manufacturing many chemical products. It is using many chemicals some of which are fast moving, some are slow moving and few are in non-moving category. The firm has a stock of 10 units of one non-moving toxic chemical. Its book value is ₹2,400, realizable value is ₹3,500 and replacement cost is ₹4,200.

One of the customers of the firm asks to supply 10 units of a product which needs all the 10 units of the non-moving chemical as an input. The other costs associated with the production of the product are:

Allocated overhead expenses ₹16 per unit

Out of pocket expenses ₹50 per unit

Labour cost ₹40 per hour. For each unit two hours are required.

Other material cost ₹80 per unit.

The labour force required for the production of the product will be deployed from among the permanent employees of the firm. This temporary deployment will not lead to any loss of contribution.

Required

- (i) RECOMMEND the minimum unit price to be charged to the customer without any loss to the firm. **(4 Marks)**
 - (ii) ANALYSE with reasons for the inclusion or exclusion of each of the cost associated with the production of the product. **(4 Marks)**
 - (iii) ADVISE a pricing policy to be followed by AB Compounds in perfect competition. **(2 Marks)**
- (b) **Fast Motor Works (FMW)** is one of the renowned coach builders (fabricator) in North India, with a mission to design and fabricate high-quality buses that are innovative in style and engineering; whilst maintaining standards of reliability. FMW has market both locally and internationally.

Human resource at FMW is highly skilled and well versed with latest tools and techniques of respective functional area. FMW is innovative company and always try to improve its performance.

Till date standard costing at FMW is limited only up to calculation of variance. Analysis and classification of variances are never performed. But newly appointed cost controller is highly motivated. Recently, post his appointment, the budgetary system at FMW was revamped drastically as part of cost efficiency drive. Same was done to give best response to variance identified, if any. Not only this, but cost controller is also interest in incorporation of relevant costing and learning curve in standard costing and budgetary control system. With help of management accountant, he able to fetch following data, pertaining to different divisions –

Fabrication division of FMW manufactures two products seat handle (product code B-SH-101) and seat cover (B-SC-102) with FMW logo imprint on both apart from fabrication. Product B-SH-101 takes 6 men hours to make while product B-SC-102 takes 12 hours. In a month of 25 actual working days of 8 hours each, 1,200 units of B-SH-101 and 750 units of B-SC-102 were produced. FMW employs 75 men in the department responsible for producing these two products. The budgeted hours are 1,86,000 per annum. No. of budgeted working days were 26 but due to break-down, production function actually remains in operation for 25 days only.

Painting Division

The budget was prepared by management accountant for painting division based upon performance report of last year, he assumes that workers learning curve rate will be 95%. But workers are skilled and specification of task is well known to them, so they assure their manager of 90% learning curve rate (learning index value will be -0.152). Since FMW believe in participatory budgeting, hence management accountant revised the budget estimate post feedback from worker's group.

In each month 15 buses are made ready for delivery after painting & fabrication. It is estimated that initial bus will take 20 hours for painting. It is estimated that learning will be terminated post 6th unit.

Extracts and Values from tables

Log 2 = 0.3010, Log 3 = 0.4771, Log 5 = 0.6990; Antilog of 1.1827 is 15.23, Antilog of 1.2808 is 19.08 and Antilog of 1.1948 is 15.66.

Required

- (i) COMPUTE revised budgeted labour hours for management accountant incorporating learning curve. **(4 Marks)**
- (ii) EXPLAIN and INTERPRET control ratios. **(2+4 Marks)**