

MOCK TEST PAPER – 2

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. **City Way Link (CWL)** operates passenger bus services in a technologically advanced city of Country X, on two routes –Central to Beach Road (route A) and Central to Downtown Street (route B) as permitted by the local government through license given 3 years back, for the term of 5 years. Although train services are also available on these two routes, there is a reasonable number of passengers who prefer buses for their own reasons and beliefs. Since the life-sense of passengers commuting between these stations are quite busy, hence fast and reliable travel is highly demanded. Apart from business passengers, leisure passengers also travel on daily basis in CWL buses on these routes as per the table below. Both routes have a respective busy and quieter time.

Particulars	Route A		Route B	
	Ordinary Buses	Volvo Buses	Ordinary Buses	Volvo Buses
Busy Hours	720	640	580	502
Quieter Hours	760	680	820	720

Passengers who choose to travel by buses, either wish to avoid driving in traffic or high cost in their own vehicle; but reasonable number among them are considering environment too & believe this will cause less harm to the environment. CWL runs a set number of buses on both the routes as per terms of permit but during both the time as per table (trip per day by CWL) shown below. CWL buses are not stopped on all bus stops falling on these two routes.

Particulars	Route A		Route B	
	Ordinary Buses	Volvo Buses	Ordinary Buses	Volvo Buses
Busy Hours	6	6	6	6
Quieter Hours	8	10	12	12

CWL own fleet of diesel buses, half of which are ordinary buses. The remaining half are Volvo buses, which CWL purchased from City Road Corporation (CRC) at cheaper prices. This way CWL is earning a higher rate of return over capital employed (one of performance indicator at CWL), in comparison to its competitors. CRC sold these Volvo buses after using them for around 10 years when certain routes of high-value passengers were privatised in the city. Being state owned corporation, CRC feels it shall focus on the operation of ordinary buses to cover all routes rather operating luxurious fleet for certain high-value routes. No doubt, chassis of these Volvo buses are around 13 years old but refabricated around 6 years ago. The ordinary bus has a sitting capacity of 52 passengers, but Volvo bus has a sitting capacity of 42 passengers only. In the ordinary bus, Wi-Fi facility is available, whereas in Volvo apart from Wi-Fi, a water bottle along with packed snacks and a welcome drink (depending upon the time of day and weather) is served. The individual LED screen is also there in Volvo bus. The number of passengers travelled (another performance indicator) with CWL is increasing each year.

CWL is largely concerned with the wealth of their shareholder and intended to maximise the same. Since the CWL starts operating busses on these routes their revenue has increased, resulting in the higher dividend paid to shareholders and market cap is also roaring high. CWL is expected for renewal of license for another 2-3 terms, but renewal is at the sole discretion of local government. CWL is incurring high preventive maintenance cost due to old chassis. Presently the government is not pleased with the quality of passenger services CWL is rendering, in a warning letter to CWL, the government highlight the issue of overcrowding in its buses and becoming unreliable during busy hours. Recently on twitter, someone twitted '**CWL is really committed – but only to torn seats, no ventilation and never connecting Wi-Fi in their buses**' with a picture of CWL bus and tag it to CEO and MD of CWL. Within in hours many others re-tweeted '**LED never works**', '**Welcome drink is worthless**', '**I travelled twice during last week and the same snacks served on all the days**'. CEO responded back that during busy hours due to more passengers, Wi-Fi doesn't work properly sometimes. CEO also mentioned that no one formally put a complaint in complaint box kept in the bus.

CWL has three major competitors, which are also permitted to run the buses on the same routes. One among these competitors is using electronic buses (Y Series by YIA - 100% electric bus) developed under 'Rapid Adoption and Manufacturing of (Hybrid &) Electric Vehicles in Country X (RAME X) Scheme' as part of The National Electric Mobility Mission Plan 2022. The fare charged by these transporters is uniform on per km basis, depending upon bus type because fares are regulated by the local government. Government is responsible for maintenance of bus stand and bus stops (the fee from each bus is charged for entering into and exist from bus stand only).

Required

Although CEO responded the twit casually, immediately after incidence she calls a meeting, you (being a senior management accountant of CWL) were also present. Another triggering factor to convene meeting is a warning letter from the government. MD of the company is also present in said meeting and mentioned that CWL is committed to both shareholders and passengers, he also signifies the need of developing performance metric (comprising indicators) which balance the interest and needs of passengers with the requirements of the shareholders. CEO approached you to –

- (i) IDENTIFY the problem associated with current performance indicators of CWL. **(4 Marks)**
- (ii) Are CWL buses are truly overcrowded (as stated in warning letter), ANALYSE in detail using the measure of occupancy; support your opinion with facts? **(4 marks)**
- (iii) COMMENT on the intensity of over-crowding for determining the performance. **(2 Marks)**
- (iii) ADVISE, how balanced scorecard, as the performance management system can help CWL. **(6 Marks)**
- (iv) What are the expected issues which may arise regarding performance indicators, while CWL applying the balanced scorecard? EXPLAIN. **(4 Marks)**

2. **Moon Industries Ltd.** 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. Vishal, the marketing manager has determined that in order to maintain the company's existing market share of 10,000 racks, Moon Industries must reduce the price of each rack to ₹675.

Required

- (i) CALCULATE the current cost and profit per unit. IDENTIFY the non-value added activities in the production process. **(6 Marks)**
 - (ii) CALCULATE the new target cost per unit for a sales price of ₹675 if the profit per unit is maintained. **(2 Marks)**
 - (iii) RECOMMEND what strategy Moon Industries should adopt to attain target cost calculated in (ii) above. **(12 Marks)**
3. **J Water Utilities Ltd. (JWUL)** was established with an aim for supply and distribution of water in Nagpur and as well as supply of water to the various local authorities for distribution to villages and other small cities adjacent to Nagpur under "MISSION PAANI". This involved planning, operating, treating, maintaining, and distributing water resources in the country's urban centres and other areas mandated by State Government. The mission statement is to provide clean and economical water for healthy life to the public":

There are two operational divisions of JWUL viz Water Distribution Operation (WDO) for distribution of water through pipes and Water Packaging Operation (WPO) for supplying water in packaged drinking water bottles. The state government ensures that JWUL does not take advantage of its monopoly position in the regional area by increasing prices. The government controls majority of services through its water regulatory body which determines an acceptable margin level (ROCE) and ensures that the pricing of JWUL within these areas does not break this level. The other operation Le. Water Packing Operation (WPO) is not regulated by government and JWUL is free to charge a market rate for water supply in bottles. The company is free to use water for Water Packaging Operation but the total use of water for Water Packing Operation (WPO) cannot exceed 35% of the total supply of water by the company. The company is presently using 20% of total water supply for packaging operation. The brand name of packaged drinking water is "Swachh-Jal" which is packed in transparent plastic bottles.

The water regulator calculates Return on Capital Employed (ROCE) of JWUL based on its own valuation and assessment of the capital assets which are used in operation and profit from these services. Acceptable level of ROCE set by the regulator is 6.50%. If JWUL breach this level, then the company would be heavily penalized. JCDSC board is making sincere efforts to improve the performance of the company for the benefit of the shareholders. The board of directors have decided to consider economic value added (EVA) as the key performance indicator, in order to meet the objective of maximizing shareholders' wealth.

Key Financial data for the year ending 31st March, 2022 is given below :

Particulars	Water Distribution Operation (₹ In Crore)	Water Packing Operation (₹ In Crore)	Total (₹ In Crore)
Revenue	585.00	212.00	797.00

Less: Operating Cost	475.00	146.00	621.00
Operating Profit	110.00	66.00	176.00
Less: Interest Cost			42.00
Profit before tax			134.00
Less: Tax @ 30%			40.20
Profit after tax			93.80

Capital Employed for the last two years

Particulars	2021-22 (₹ In Crore)	2020-21 (₹ In Crore)
As per Audited Accounts	2,040.00	1,940.00
As calculated by Water Regulator (for WDO operations only)	1,812.00	1,760.00

The following notes are to be taken into consideration in the analysis:

- Operating Costs include:

Particulars	2021-22 (₹ In Crore)	2020-21 (₹ In Crore)
Depreciation	124.00	118.00
Provision for bad and doubtful debts	6.00	2.00
R&D Cost	20.00	---
Other Non-Cash items	22.00	11.00

- Economic depreciation is ₹ 156.00 Crore in 2021-22. In the FY 2020-21, economic and accounting depreciation were assumed to be the same.
- Current year's tax paid is ₹ 23.00 Crore and deferred tax provisions of ₹ 2.00 Crore have been adjusted. There was no deferred tax balance before 2021-22.
- The provision for doubtful debts was ₹ 12.00 Crore in the 2021-22 Balance Sheet.
- Research and development has been non-capitalized. It belongs to a new project that will be developed over six years and is expected to be of long-term benefit to the company. 2021-22 is the first year of this project.
- Cost of Capital:

Equity	15%
Debt (Post Tax)	5%

- Gearing of JWUL Equity:

Equity	30%
Debt (Post Tax)	70%

Required

- CALCULATE EVA of JWUL for the year ending 31 March, 2022 based on the above information.
(6 Marks)
- EVALUATE the financial performance of JWUL using EVA.
(4 Marks)

- (iii) ASSESS whether JWUL comply with its acceptable ROCE level. **(3 Marks)**
- (iv) ADVISE how JWUL can improve its performance in terms of profitability and EVA in future. **(7 Marks)**

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

'F' 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. 'F' believes that he could manage with one clerk if he were to implement the system.

Required

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

- (b) The MD of P Limited, a 150 persons engineering company, decided it was time to fire the company's biggest client. Although the client provided close to 60% of the company's annual revenue, P Limited decided that dropping this client was necessary. The client was profitable.

The MD of P Limited stated "We cannot be a great place to work without employees, and this client was bullying my employees. Its demands for turnaround were impossible to meet even with people working seven days a week. No client is worth losing my valued employees".

The initial impact on revenues was significant. However, P Limited was able to cut costs and obtain new customers to fill the void. Moreover, the dropped client later gave P Limited two projects on more equitable terms.

Required

DISCUSS the reasons behind dropping of a profitable client by P Limited. **(5 Marks)**

OR

In the context of a balanced scorecard, IDENTIFY the perspectives of the following independent situations:

Sl. No.	Organisation	Target Parameter	Perspective
(i)	Courier Company	100% on-time delivery of priority dispatches.	---
(ii)	Tuition Centre	Set up class-on-internet facility for better reach of more number of students and absentees.	---
(iii)	Computer Manufacturing Company	Set up service centres in all major cities for after sales support.	---
(iv)	Government Taxation Department	Ensure Computer training to all officers above a certain rank to improve their capabilities.	---

(5 Marks)

- (c) Edward Ltd. manufactures weighing machines of standard size and sells its products to two industrial customers namely MT Ltd. and KG Ltd. and to a dealer MG Bros. having shops in different cities. The maximum retail price per unit of weighing machine is ₹ 11,000 and per unit average cost of production is ₹ 5,500 (40% is general fixed overhead cost).

The Finance Officer has been asked to undertake a customer profitability analysis and calculate and compare the profit margin per customer (before deducting general fixed overhead) to know about the real customer profitability.

Following are the additional overhead information:

Delivery Costs	₹ 200 per Kilometer
Emergency Delivery Cost (in addition to Delivery Cost)	₹ 21,000 per Delivery
Order Processing Cost	₹ 6,000 per Order
Specific Discount and Sales Commission	As per Negotiation
Product Advertisement Cost	Actual Cost

The following data are available for each customer:

Particulars	MT Ltd.	KG Ltd.	MG Bros.
Sales (in units)	2,000	1,000	800
Total Delivery Kilometer Travelled	1,000	800	900
No. of Emergency Delivery	2	1	0
No. of Orders Processed	4	2	8
Specific Discount (Percentage of Sales Revenue)	25%	20%	15%
Sales Commission (Percentage of Sales Revenue)	15%	10%	5%
Advertisement Costs (₹)	8,75,000	6,15,000	4,30,000

Required

- (i) CALCULATE the profitability for each customer. (8 Marks)
 - (ii) COMMENT on the results. (2 Marks)
5. (a) 'A One Security' 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

The questions below are separate scenarios and are not related to each other.

- (i) IDENTIFY the bottleneck in the operation cycle that 'A One Security' should focus on improving. Give reasoning for your answer. (3 Marks)
- (ii) An improvement in the installation technique could increase the number of installations to 550 camera units. This would involve total additional expenditure of ₹40,000. ADVISE 'A One Security' whether they should implement this technique? (3 Marks)

- (iii) Engineers have identified ways to improve manufacturing technique that would increase production by 150 camera units. This would involve a cost ₹100 per camera unit due to necessary changes to made in direct materials. ADVISE 'A One Security' whether they should implement this new technique. **(4 Marks)**
- (b) Established in the year 1997, **Excellent Woodcraft** Private 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. **(4 Marks)**
 - (ii) ADVISE on best approach from EWPL's perspective that may be adopted. **(6 Marks)**
6. (a) Golden paints is a manufacturer of industrial dyes. It has received an order for 200 kgs of powder dye that needs to be customized to certain specifications. The job would require the following materials:

Material	Total units required	Units already in inventory	Book value of the units in inventory (₹ per unit)	Realizable value (₹ per unit)	Replacement cost (₹ per unit)
M	1,000	0	NA	NA	10
N	1,500	600	14	16	20
O	1,000	700	12	10	13
P	250	250	9	12	15

- I) Material N is used regularly in production of all types of dyes that Golden plants produces. Therefore, any stock used towards this job order would need to be replaced to meet other production demands.
- II) Inventory of material O and P are from stock that was purchased in excess previously. Material O has no other use other than for this special order. Material P can be used as a substitute for 350 units of material Z which currently costs ₹11 per unit. The company does not have any inventory of material Z currently.

Required

ANALYSE the relevant costs of material while deciding whether to accept the order or not?

(10 Marks)

- (b) Queensland Chemicals (QC) manufactures high-quality chemicals Q-1, Q-2 and Q-3. Extracts from the budget for last year are given below:

	Q-1	Q-2	Q-3
Sales Quantity (kg)	1,000	3,250	750
	₹/ kg	₹/ kg	₹/ kg
Average Selling Price	17,600	2,560	22,400
Direct Material (C ₂ H ₆ O) Cost	8,000	1,280	9,600
Direct Labour Cost	3,200	480	4,800
Variable Overhead Cost	320	48	480

The budgeted direct labour cost per hour was ₹160.

Actual results for last year were as follows:

	Q-1	Q-2	Q-3
Sales Quantity (units)	900	3,875	975
	₹/ kg	₹/ kg	₹/ kg
Average Selling Price	19,200	2,480	20,000
Direct Material(C ₂ H ₆ O) Cost	8,800	1,200	10,400
Direct Labour Cost	3,600	480	4,800
Variable Overhead Cost	480	64	640

The actual direct labour cost per hour was ₹150. Actual variable overhead cost per direct labour hour was ₹20. QC follows just in time system for purchasing and production and does not hold any inventory.

Required

INTERPRET the Sales Mix Variance and Sales Quantity variance in terms of contribution .

(10 Marks)