MOCK TEST PAPER - APRIL, 2022

Dear Student Friends,

As usual, most of the questions are repetitive in nature with just a change in Company's name. Hence, to avoid the duplication of work, I have excluded the repeat questions and included only new questions with answers here.

Summary of April, 2022 - Mock Test Paper

MTP Q. No.	Reference of similar Question from our classroom notes
1	It is a new question, hence it is covered below with answer
2	Covered in Version 4 Classroom Notes / Volume I / Q.6/132
3	Covered in Version 4 Classroom Notes / Volume II / Q.11/18
4(a)	Covered in Version 4 Classroom Notes / Volume I / Q.50/215
4(b) OR	Covered in Version 4 Classroom Notes / Volume IV / Q.9/182
4(b)	Covered in Version 4 Classroom Notes / Volume II / Q.16/36
4(c)	It is a new question, hence it is covered below with answer
5(a)	Covered in Version 4 Classroom Notes / Volume I / Q.16/48
5(b)	Covered in Version 4 Classroom Notes / Volume IV / Q.4/94
6(a)	Covered in Version 4 Classroom Notes / Volume I / Q.19/184
6(b)	Covered in Version 4 Classroom Notes / Volume II / Q.54/253

Question 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-style of passengers commuting between these stations is 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.

Number of actual passengers travelling daily on these routes is given in 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

The available capacity per day (i.e. no. of seats) on these routes is given in the table below :

Particulars	Route A		Route B	
	Ordinary Buses	Volvo Buses	Ordinary Buses	Volvo Buses
Busy Hours	624	504	624	504
Quieter Hours	832	840	1,248	1,008

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. CWL buses are not stopped on all bus stops falling on these two routes.

CWL owns a 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 started operating buses 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 highlighted 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 hours many others re-twitted **'LED never works', 'Welcome drink is worthless', 'I travelled trice 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 Electric Vehicles in Country X (RAME X) as a 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. 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 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 will 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 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)**

(iv) ADVISE how balanced scorecard, as the performance management system can help CWL. **(6 Marks)**

(v) What are the expected issues which may arise regarding performance indicators, while CWL applying the balanced scorecard? EXPLAIN. **(4 Marks)**

Solution 1 :

Student Note : I have modified ICAI answer at few places to make is easy for you to understand it. Because, I found that ICAI answer is confusing at few places or the wordings are not clearly understandable or there are spelling mistakes etc.

(i) There are two performance indicators highlighted in the present case, which are used by CWL, the first being 'rate of return on capital employed' which is purely monetary in nature and second being 'number of passengers travelled' which is non-monetary, but quantitative in nature. Hence some major problems (or limitations) associated with current performance indicators are –

1. They are quantitative, hence **ignore qualitative criteria,** despite the fact that in service industry, quality has more relevance than quantitative factors.
2. Performance **indicators are shareholder-oriented** only, there are focussed on the bottom-line i.e. ROI.
3. There is **conflict between measures and objectives** – CWL is largely concerned with the wealth of their shareholders which is a long term aspect but it is using ROCE (short term) as its key performance measure.

4. Current indicators (measures) are **not a true test of performance** – CWL may rely upon the increase in the number of passengers each year as a performance indicator of their customer services, but the reasons for passengers travelling through CWL buses may be different from this. It is possible that as the CWL's buses do not stop on each bus stop, the buses of another operator also may not cover some of the stops. In such case, CWL buses would be the only choice to the passengers of that particular stop. It may lead to higher number of passengers.

(ii) To decide whether the CWL buses are overcrowded or not, the measure of occupancy (i.e. occupied seats v/s available seats) needs to be applied.

Particulars	**Route A**		**Route B**		**Total**
	Ordinary Buses	**Volvo Buses**	**Ordinary Buses**	**Volvo Buses**	
Availability of Seats (Category wise) per day (A)					
Busy Hours	624	504	624	504	2,256
Quieter Hours	832	840	1,248	1,008	3,928
Category Total	1,456	1,344	1,872	1,572	6,184
Route Total	2,800		3,384		
Actual Passengers per day (B)					
Busy Hours	720	640	580	502	2,442
Quieter Hours	760	680	820	720	2,980
Category Total	1,480	1,320	1,400	1,222	5,422
Route Total	2,800		2,622		
Occupancy % (B/A x 100)					
Busy Hours	115.38	126.98	92.95	99.60	**108.24**
Quieter Hours	91.34	80.95	65.71	71.43	**75.87**
Category Total	101.65	98.21	74.79	80.82	**87.68**
Route Total	**100**		**77.48**		

Analysis :

Overall occupancy is 87.68%, on prima-facie this implies more seats are available than the passengers, hence the local government's claim does not hold true. But this 87.68% may be a misleading number to decide whether there is a overcrowding or not. Because it may possible during the busy hours on the specific route, a specific category of the bus may be over-occupied from particular station to another station.

Although station wise data of boarding of passengers is not given, route wise and bus category wise data is available. Hence in order to analyse, whether there is overcrowding or not; category wise and route wise assessment needs to be done.

- There is no overcrowding during **'Quieter Hours'** on any route in any category of bus.
- There is no overcrowding on **Route B** at all, even during busy hours.
- The overcrowding is only on **Route A** that's also during busy hours.

- Overcrowding is at its peak in case of Volvo Buses on **Route A** during busy hours (126.98%), whereas ordinary buses on the same route and during same hours have an occupancy rate of (115.38%).

(iii) Comment on Intensity of Overcrowding :

The intensity of over-crowding will not be the same in all cases for impacting the performance. Overcrowding cause lack of seat for a certain passenger. It is obvious that it will be an inconvenient experience for such a passenger. But the impact (intensity in the form of dissatisfaction) will be different and it depends upon the length of journey the passengers are making. In the shorter distance (i.e. passenger who board the bus from intermediate station till next station), the intensity will be less in comparison to the long-distance journey.

(iv) Balanced Scorecard at CWL :

Balanced scorecard was first referred by Robert Kaplan and David Norton in 1990. Balance Scorecard can equip, CWL with a **performance management system** (which is more than just measurement system) which will be superior, in terms of ensuring the availability of information to business manager to make better and informed decision and evaluation thereof, by establishing multiple objectives supported by performance measures in each of the following four perspectives.

1. Financial Perspective – Ensuring the availability of accurate financial data on timely basis is one among the priority of management, hence Kaplan and Norton suggested the process of storing and retrieving financial information should be centralised and automated.

In the case of CWL, currently, there is a conflict between financial measures and objectives. The maximising shareholder's wealth which is a long term aspect but considering ROCE as it key performance measure which is influenced by short term decision.

Balanced Scorecard (through diverse financial measures) will help CWL to align its financial measures and objectives, by focusing on investment (new buses may lead to more passenger and old buses obviously cause loss of passenger) and divided decision to ensure wealth maximisation. It also helps CWL emphasis on EVA (economic value added) to see the wider picture rather considering ROCE as a performance measure. One need, additional financial data such as risk assessment and cost aspects; may also be included.

2. Customer (Passenger) Perspective – Statement by MD of CWL, 'CWL is committed to both shareholders and passengers' shows increasing realisation of the importance of passenger focus. Customer satisfaction is very important for any business, because if the customer is not satisfied, they will find another supplier to fulfil their need; may even cause closure of business, hence customer base should be categorised and analysed.

Presently, CWL may rely upon the increase in the number of passengers each year as a performance indicator of their customer services, but the reason of a passenger travelling through buses are way different from this. CWL may move to number of the repeated customer as criteria but there is a problem in that too, because there are limited competitors (options to passengers), and CWL's buses may be the only choice at few bus stops.

Balanced Scorecard may help the CWL to know the qualitative facts about passenger and their behaviour, likewise how many passengers are travelling through bus because they feel it will help them to save cost or to save environmental effect or to save anxiety

caused by traffic etc. It also helps the CWL to understand if it shifts to electronic buses, will the passenger occupancy improve where it's less now. Such survey may be an expensive exercise but may fetch information to decide the right measure and performance in the same. Like how may % of passengers actually use Wi-Fi and LED (in case of Volvo) may also be analysed.

3. Internal Business Process Perspective – This allows the manager to know how well their business is running. Mind it the internal processes efficiency can be closely linked to customer satisfaction. As per facts available in the case, CWL clearly ignored this perspective.

Balanced scorecard will help CWL to address the issues like reliability and over-crowding (by identifying the reasons – cut down the stop causing over-crowding). This will help CWL in changing the government perspective. Hence their permit may be renewed by the government after two years from now. Because in order to enhance shareholders wealth, CWL is expected to continue operation on the same route for two more terms.

4. Innovation, Learning & Growth Perspective – Innovation in the way the organisation operates, learning of employees and growth strategies are key to success of any business. Innovation can improve customer's experience and in-service entities learned staff can play a vital role in differentiating the service experience.

Innovation at CWL may include change of technology for ensuring un-interrupted Wi-Fi, different menu of snack on different days, the introduction of electronic buses (specifically this move may open wide doors of growth for CWL).

Learning of employees may result in a reduction in maintenance time which they spent on preventive maintenance. And the learning of front desk staff can improve customer experience.

(v) Expected issues which may arise regarding performance indicators, while CWL applying the balanced scorecard.

Prioritising is never easy; hence the choice of performance measures is critical. But the same become more critical when balance need to be developed among different stakeholder groups. In the case of CWL too, challenges in the selection of performance measures (indicators) are expected, because presently there is a higher focus on shareholders. Even time horizon of measures considered by balanced scorecard are comparatively longer. There are some other issues as state below -

1. **Some of the indicators are hard to measure than others** – Data related to performance in reference to certain indicators are easily available (easy to record, store, present and analyse relevant data & conversion of qualitative facts in quantitative numbers), whereas in case of others it may not. For example, it is easy to calculate over-crowding (through occupancy ratio) but difficult to quantify the inconvenience caused to the passenger. Environment impact may be another example. Apart from this, the cost of collecting and analysing these data also need to be considered.

2. **The relative importance of measures varies** – It's quite possible that some aspects value more to a certain passenger than other aspects to the same passenger, hence the measure shall be decided very carefully considering their importance from a wider perspective. Value chain may be the best tool for this. For example, Wi-Fi connectivity may be a major issue for certain passenger than timing or environment impact of the bus in which she/he travels.

   Note – Certain measures have regulatory (like the safety of passenger) importance, hence must be put on priority over others.

3. **Too many measures also lead nowhere** – The prime concern of CWL is to maximise the wealth of its shareholders, which can be attained in many manners and ways. Then each way may have certain implication and that implication can be measured through separate performance indicators. Too many indicators / measures may cause unnecessary time and financial resource. Hence a clear strategy must be developed prior to choosing measures for performance management.

4. **The measure may overlap and has a conflict inter-se** – Two measure may not lead to the same implication, if considering the environmental impact, CWL shifts to electronic buses, then obviously it's capital employed will go up and the rate of return will come down. Hence, it's quite often the improvement of performance in one measure is detrimental to another measure's performance.

Question 4(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% of this 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 Kilometre
Emergency Delivery Cost (in addition to above 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 kilometres 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)**

Solution 4(c) :

(i) **Customer Profitability Statement**

Particulars	**MT Ltd.**	**KG Ltd.**	**MG Bros.**
(a) Sales (units)	2,000	1,000	800
	(₹)	(₹)	(₹)
(b) Sales Revenue [a x ₹ 11,000]	2,20,00,000	1,10,00,000	88,00,000
(c) Average Variable Cost @ ₹ 3,300 p.u. (₹ 5,500 x 60% = 3,300 p.u.)	66,00,000	33,00,000	26,40,000
(c) Contribution [70% of (b)] or [b - c]	1,54,00,000	77,00,000	61,60,000
(d) Additional Overheads :			
Delivery Cost @ ₹ 200 per km.	2,00,000	1,60,000	1,80,000
Emergency Delivery Cost @ ₹ 21,000	42,000	21,000	---
Order Processing Cost ₹ 6,000	24,000	12,000	48,000
Specific Discount [% of (b)]	55,00,000	22,00,000	13,20,000
Sales Commission [% of (b)]	33,00,000	11,00,000	4,40,000
Advertisement Cost	8,75,000	6,15,000	4,30,000
(e) Profit per customer before deducting general fixed overhead cost [c - d]	54,59,000	35,92,000	37,42,000
(f) Profit Margin per customer [e / b x 100]	24.81%	32.65%	42.52%
(g) Rankings based on (f) above	III	II	I

(ii) The contribution margin is 70% for each customer but when the other overhead costs per customer are deducted in the above Profitability Statement, the profitability of the three customers becomes different. MG Bros. is the most Profitable Customer as % of sales revenue. However, in absolute terms the total profit amount is highest for customer MT Ltd.

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