**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. **Connaught P Restaurant Limited (CPRL)** owns a chain of eating joints, drive through, and restaurants in the northern part of the country, that offer verities of burgers and allied or complementary stuff. CPRL is interested in gaining the access to commercial space in south Indian cuisine restaurants (especially those located at places other than the southern region), hence looking forward to acquiring a chain of food restaurants that offer South Indian Cuisine with a reasonable presence. After analysis of the various prospects and alternates, the board of CRPL identified three options Sankalpa, Ratan Sagar, and Anandam G.

   **Sankalpa** offers south Indian cuisine with a presence in the states of Gujarat, MP, Rajasthan, Chhattisgarh, Maharashtra, and Karnataka apart from few overseas restaurants in the US, Canada, England, UAE, Australia, and New Zealand. Famous and record holder for their longest Dosa. Restaurant managers are given autonomy in decision-making. The manager decides from whom to purchase and on what terms, also makes the marketing plans and decides the prices of the products. Compensation to managers includes the performance-linked pay (equally split into cash benefits and stock options). Significant flexibility behaves like a double-edged sword, managers enters into the trap of price war with other Sankalpa restaurants operating in the same region (or nearby region). Managers suggest the expansion that can be done in their respective restaurants and plays a pivotal role in investment decision too. Even the restaurants can have names of their choice but they must carry the word Sankalpa and carry a logo for identification.

   **Ratan Sagar** is a chain of authentic South Indian cuisine restaurants across the states of Punjab, Himachal, Haryana, Assam, Uttarakhand and UP. Restaurants will have the common name 'Ratan Sagar' only and likely ambiance. Restaurant managers are free to take pricing and operational decisions, considering the guidelines prescribed by the corporate office, to ensure the smooth running of the restaurant. Managers are responsible to meet the budgeted allocations. The corporate office solely takes investment decisions.

   **Anandam G.** is a small chain of South Indian food restaurants in the NCT, the purchase for all the restaurants is done by the central office. Managers have to follow strict guidelines for all aspects of restaurants in an attempt to maintain uniformity across the locations. Managers are responsible to meet the cost budget allocated to them, prices are uniform in all the restaurants and decided by the corporate office. Evaluation of managers' performance will be done on the basis of achieving goals developed by the central office.

   Board is considering Sankalpa as the best alternate, but thinking about goal congruence of objectives, hence yet to take the final call.

   ***Required***

   (i) DESCRIBE the authority structure. *(2 marks)*

   (ii) ANALYSE the authority structure of Sankalpa, Ratan Sagar, and Anandam G. (in terms of the delegation). *(5 marks)*

   (iii) LIST the pros and cons of the structure prevailing in Sankalpa and also LIST factors affecting it. *(3 marks)*

   (iv) DESCRIBE the responsibility centres (in brief). *(2 marks)*

(v) ANALYSE the nature of restaurants Sankalpa, Ratan Sagar, and Anandam G. as responsibility centre. *(3 marks)*

(vi) Considering the nature of Sankalpa, IDENTIFY two financial measures that can be used for performance evaluation of restaurant manager. *(1 mark)*

(vii) ADVISE the board, how goal congruence can be improved between CPRL and Sankalpa? *(4 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. **Roadrunner** is a trucking company that ships commercial goods for companies to various ports within the state of Gujarat. These ports facilitate further shipments of goods by sea to their final destinations. The company aims at maintaining good quality delivery standards to make its mark in the competitive environment it operates.

The entire shipment of the company is for deliveries from various destinations within the state to one of the ports. During the truck's return journey, the company tries to have a shipment from the port to one of the major destinations within Gujarat. In trucking jargon, a truck on the road without carrying any load is called "deadheading". A trucking company will try to minimize the kilometers covered in a deadhead because it is unproductive. Therefore, the company has agents on the ground, who can find appropriate shipments within few days' time. This way the utility of the truck and productivity of each shipment journey improves.

All shipments thus far have been "Full Truck Load" (FTL) shipments. This means, that the entire truck is booked for the shipment of goods of just one client. The goods collected from the client are delivered directly to the destination port. Advantages of FTL shipments are→ minimum handling of goods, loading and unloading will be from that single vehicle and fast delivery of goods with minimum damage.

Due to low fuel prices, the company has been enjoying reasonable profits from this business. However, fuel prices have increased over the last few months. Due to economic slowdown, number of shipments have been stagnant for a while. There is a possibility of reduced size of shipments in the coming year. Therefore, the company plans to offer "Less than Truck Load" (LTL) shipments to many of its clients. Here, shipments by the clients will be larger than a parcel carrier can handle, but not enough to require an FTL shipment. Shipment loads from various clients will be collected at a common collection area.

Shipments to common destination port will then be loaded onto a truck and delivered at that specific port. Typically a client is willing to wait for maximum 7 days from the time goods are handed over for delivery to the actual delivery at the port. The advantage of this type of shipment is that it facilitates smaller consignments to be shipped at economical cost to the company. This brings flexibility in operations to the business. At the same time due to smaller shipments, the clientele base has to increase so that when the truck leaves on a shipment journey its capacity is completely utilized.

This decision to introduce LTL shipments in addition to FTL shipments has been a strategic change for the business. At present, Roadrunner handles about 15% of the total consignments that are made from within Gujarat to the various ports. It wants to maintain and if possible grow its market share. However, competition is stiff in this sector. To get a larger clientele base, it has increased its advertisement spend to make its presence known in the market. Advertisement in specific trade publications, membership on trucking load boards that help to find clientele online, participating in trade association events etc. The company plans to target mid-sized companies as customers that can give shipment loads at regular intervals.

The senior management has targeted:

1) Cost-per-kilometer rate of ₹200.
2) Revenue per kilometer rate of ₹350.
3) Average Accounts Receivables collection period of 10 working days.
4) Average customer lifetime value: ₹ 20 lakhs and above. The target customer base would be mid-sized companies having shipments at regular intervals.

The senior management of the company has been focused only on the financials. However, they now acknowledge that other non-financial metrics also need to be tracked in order to sustain and improve the business. To assess the company's performance under the LTL system, below are some of the operational metrics that are proposed to be collated:

(a) Customer claims filed for damaged goods (absolute numbers and % of shipments made under the LTL system)
(b) Time taken to resolve the above claims (days from date of customer filing claim)
(c) Delays in delivery beyond the agreed delivery time (% of shipments made under the LTL system)
(d) Number of days truck was not on the road (due to maintenance or insufficient load)
(e) Average time taken to get full truck load under LTL (days)
(f) Deadheads (kilometers) : Kilometers during journeys when the truck had no load to carry.
(g) Number of orders turned down due to non-availability of trucks
(h) Ability to deliver within 7 days from the date of receiving client's goods under the LTL system (% of shipments under the LTL system)

As a management consultant for the company, you plan to present the above information using the Performance Pyramid model suggested by Lynch and Cross.

***Required***

(i) IDENTIFY the Level 1 – Corporate Vision and Level 2 – Market and Financial measures that the company plans to follow to sustain business. Briefly EXPLAIN the rationale of the decisions taken at the Market and Financial business unit level. *(4 Marks)*

(ii) CLASSIFY the operational level (measures a to f) into Quality, Delivery, Cycle Time and Waste metrics. Also link them to the Level 3 measures of Customer Satisfaction, Flexibility and Productivity. *(12 Marks)*

(iii) Briefly ASSESS how measures (g) and (h) impact business. *(4 Marks)*

4. (a) (i) **“M”** is a leading manufacturing company. Under increasing pressure to reduce costs, to contain inventory and to improve service, “M”’s Costing Department has recently undertaken a decision to implement a JIT System.

The management of “M” is convinced of the benefits of their changes. But Supplies Manager Mr. Bee fears with the Costing Department’s decision. He said:

*“We’ve been driven by suppliers for years ... they would insist that we could only purchase in thousands, that we would have to wait weeks, or that they would only deliver on Mondays!”*

***Required***

Is Mr. Bee’s view- point correct? COMMENT. *(5 Marks)*

(ii) **‘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 vale of money) *(5 Marks)*

**OR**

The research and development wing of **Electronics Ltd.** has developed a new kind of energy efficient inverter motor with 5-star rating from Bureau of Standards of Energy for use in industrial generator. The initial trials noted that it would take 10 hours for the first motor, which is subject to learning curve of 80%. The cost of material per motor would be ₹2,500, labour charges ₹175 per hour and overheads amount to 125% of labour cost.

The first order received is for delivery of eight motors.

***Required***

CALCULATE price the company should quote to have a profit margin of 20% on sales.

*(5 Marks)*

(b) **NAC miners** operates two divisions, one in Japan and other in United Kingdom (U.K.). Mining Division is operated in Japan which is rich in raw emerald.

The other division is United Kingdom Processing Division. It processes the raw emerald into polished stone fit for human wearing.

The cost details of these divisions are as follows:

| **Division** | **Japan Mining Division** | **United Kingdom Processing Division** |
|---|---|---|
| | **Per carat of raw emerald** | **Per carat of polished emerald** |
| Variable Cost | 2,500 Yen | 150 Pound |
| Fixed Cost | 5,000 Yen | 350 Pound |

Several polishing companies in Japan buy raw emerald from other local Mining Companies at 9,000 Yen per carat. Current Foreign Exchange Rate is 50 yen = 1 Pound. Income Tax rates are 20% and 30% in Japan and the United Kingdom respectively.

It takes 2 carats of Raw Yellow emerald to yield 1 carat of Polished Stone. Polished emerald sell for 3,000 Pounds per carat.

***Required***

(i) COMPUTE the transfer price for 1 carat of raw emerald transferred from Mining Division to the Processing Division under two methods - (a) 200% of Full Costs and (b) Market Price. *(2 Marks)*

(ii) 1,000 carats of raw emerald are mined by the Japan Mining Division and then processed and sold by the U.K. Processing Division. COMPUTE the after tax operating income for each division under both the Transfer Pricing Methods stated above in (i). *(8 Marks)*

5. (a) **EKS Ltd.** manufactures a single product, which requires three components. The company purchases one of the components from three suppliers. DE Ltd., PE Ltd. and ZE Ltd. The following information are available:

| | DE Ltd. | PE Ltd. | ZE Ltd. |
|---|---|---|---|
| Price quoted by supplier (per hundred units) | ₹240 | ₹234 | ₹260 |
| % of Defective of total receipts | 3% | 5% | 2% |

If the defectives are not detected they are utilized in production causing a damage of ₹200 per 100 units of the component. Total requirements are 12,000 units of the components.

The company intends to introduce a system of inspection for the components on receipt. The inspection cost is estimated at ₹26 per 100 units of the components. Such as inspection will be able to detect only 90% of the defective components received. No payment will be made for components found to be defective in inspection.

***Required***

ADVISE

(i) Whether inspection at the point of receipt is justified? *(8 Marks)*

(ii) Which of the three suppliers should be asked to supply? *(2 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. *(5 Marks)*

(ii) ADVISE on best approach from EWPL's perspective that may be adopted. *(5 Marks)*

6. (a) **AB Chemicals**, 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 5 units of one non-moving toxic chemical. Its book value is ₹4,800, realizable value is ₹7,000 and replacement cost is ₹8,400.

One of the customers of the firm asks to supply 5 units of a product which needs all the 5 units of the non-moving chemical as an input. The other costs associated with the production of the product are:

Allocated overhead expenses ₹32 per unit

Out of pocket expenses ₹100 per unit

Labour cost ₹80 per hour. For each unit two hours are required.

Other material cost ₹160 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 Chemicals in perfect competition. *(2 Marks)*

(b) **Y Ltd.**, based in Kuala Lumpur, is the Malaysian subsidiary of Japan's NY corporation, headquartered in Tokyo. Y's principal Malaysian businesses include marketing, sales, and after-sales service of electronic products & software exports products. Y set up a new factory in Penang to manufacture and sell integrated circuit 'Q50X-N'. The first quarter's budgeted production and sales were 2,000 units. The budgeted sales price and standard costs for 'Q50X-N' were as follows:

| | **RM** | **RM** |
|---|---|---|
| Standard Sales Price *per unit* | | 50 |
| Standard Costs *per unit* | | |
| Circuit X (10 units @ RM 2.5) | 25 | |
| Circuit Designers (6 hrs. @ RM 2) | 12 | (37) |
| Standard Contribution *per unit* | | 13 |

Actual results for the first quarter were as follows:

| | **RM '000** | **RM '000** |
|---|---|---|
| Sales (2,000 units) | | 158 |
| Production Costs (2,000 units) | | |
| Circuit X (21,600 units) | 97.20 | |
| Circuit Designers (11,600 hours) | 34.80 | (132) |
| Actual Contribution (2,000 units) | | 26 |

The management accountant made the following observations on the actual results–

"*In total, the performance agreed with budget; however, in every aspect other than volume, there were huge differences. Sales were made at what was supposed to be the highest feasible price, but we now feel that we could have sold for RM 82.50 with no adverse effect on volume. The Circuit X cost that was anticipated at the time the budget was prepared was RM 2.5 per unit. However, the general market price relating to efficient purchases of the Circuit X during the quarter was RM 4.25 per unit. Circuit designers have the responsibility of designing electronic circuits that make up electrical systems. Circuit Designer's costs rose dramatically with increased demand for the specialist skills required to produce the 'Q50X-N', and the general market rate was RM 3.125 per hour - although Y always paid below the normal market rate whenever possible. In my opinion, it is not necessary to measure the first quarter's performance through variance analysis. Further, our operations are fully efficient as the final contribution is equal to the original budget."*

***Required***

COMMENT on management accountant's view. *(10 Marks)*

1