Test Series: October, 2021

MOCK TEST PAPER – 1

FINAL (NEW) 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. **I PACIFIC** is the second largest airline in the Country "X". Aviation industry in the Country "X" is growing fast. In 2011, 45 million people travelled to/ from/ or within the Country "X". By 2020 that doubled to 100 million. This number is expected to treble to 300 million by 2030. Also, by 2025, Country "X" is expected to be the third largest air transport market in the world, behind the US and China.

   Government is trying to meet the significant growth potential of aviation Industry. However, it will create challenges also for the airline industry and its industry partners.

   Government also wants to ensure that broader business and policy environment should not place hurdles which inhibit growth and reduce the level of benefits that aviation can deliver to the nation. The industry, its supply chain partners, and the government and policy makers have a clear mandate to work in collaboration towards the common goal of ensuring that aviation's economic and social benefits are fulfilled.

   Despite of operating in World's fastest growing market I PACIFIC struggles for passengers. Also, I PACIFIC is facing following problems:

   - Aviation Turbine Fuel (ATF) prices constitute about 40% of operational costs in Country "X" and are taxed higher here than anywhere else in the World. The Central government charges 14% duty on ATF. While the state government pile on their own local tax that can go as high as 29%.
   - The currency depreciation is hitting Airline harder. About 25% to 30% of their costs, excluding ATF, are dollar denominated, from aircraft lease rents, maintenance costs to ground handling and parking charges abroad etc.
   - With the entry of Low Budget Carriers, full-service carrier like I PACIFIC that have higher overhead costs have been forced to offer discount to passengers looking for great bargain.
   - Continuous improvements in tourism infrastructure, tourism policies, human resources development, airport infrastructure density are among the areas that could further enhance Country "X"'s competitiveness. Ease of doing business over the last five years has risen.

- The intense competition among domestic airlines carriers, the need to capture a slice of the ever-expanding market and passenger price sensitivity makes the airlines difficult to raise ticket prices.

Together, these factors have now plunged Country "X"'s aviation industry to its most precarious phase in the last three years or so.

I PACIFIC is facing huge competition as a "year of sharp U-turns" for "X"'s aviation industry from record profit in Financial Year 2019-20 to mega losses, resulting in direct need of recapitalisation. I PACIFIC has been appealing to the government for a decade for a reduction in taxes on fuel, but all in vain. ATF is 35-40% more expensive in Country "X" than in the rest of the world, because of relatively high tax rates.

Required

ADVISE the strategy that I PACIFIC should follow in order to gain superior performance and competitive advantage over its competitors. **(20 Marks)**

2. **Star Paper Mart (SPM)** is in process of getting ISO 14001:2004 Environmental Management Systems (revised ISO 14001:2015) certification. SPM is selling eco-friendly and wheat straw-based paper of different sizes (A3, A4, and A5) and GSM under the brand 'Prime'. Prime is a famous name among both commercial and household consumers.

For purpose of getting certified, a cross-functional team is constituted, which is responsible ***'to improve the environmental impact & image of SPM as eco-friendly enterprise and control environmental cost'***, which collects the following particulars relating to the H1 and H2 (first and second half of the relevant fiscal year respectively)

Disposing of the toxic material costs ₹1.2 crores to SPM in H2 which is 20% lesser than what was spent during H1. Committee responsible for formulating policy matters on environment-related aspects in SPM has departmental budget of ₹6 lakhs p.a., in H1 the utilisation rate was 80% and in H2 it was 110%.

Environmental audits earlier used to conduct on a half-yearly basis, but management decided to reduce the frequency to quarter each, in the mid of such year. Each such audit cost ₹8 lakhs to SPM. In the H2 SPM extends the production capacity and installed the new plant & machinery which has put to use cost of ₹ 77.25 crores, this is the premium version of the plant and machine due to its capability to reduce the generation of waste. Erection and other installation costs including dry-run were ₹65 lakhs and the same for all versions. The standard version has on-board cost of ₹76.20 crores.

SPM is practicing the recycling policy, which was formulated around three years ago; for the scrap, it generates in its plant. The review of the recycling policy is pending for the last 12 months. The cost incurred during the fiscal year was ₹2.75 crores, spent in alignment to scrap generated during the year. The policy document also states– *'zero discharge of waste/scrap into the environment, in order to be true-sense eco-friendly enterprise'*.

In H2 contamination test was performed which cost ₹4 lakhs to SPM. The monitoring cost incurred during the year was ₹78 lakhs; in H2 this was double then H1.

Required

(i) PREPARE the environmental cost statement as per the classification suggested by 'Hanson and Mendoza'. **(6 Marks)**

(ii) ANALYSE the elements of environmental cost at SPM. **(4 Marks)**

(iii) EVALUATE whether the cross-functional team is successful in serving their 'terms of reference'. **(10 Marks)**

Note- Clearly State the assumptions (if any).

Annexure

Scrap Generated (during the year)

Quarter	First	Second	Third	Fourth
Scrap generated and recycled	1,572 MT	1,428 MT	1,114 MT	886 MT

3. Alpha and Beta are two divisions of the Hind Multinational Ltd. (AML). The Division Alpha manufactures auto components which it sells to other divisions and external customers.

The Division Beta has designed a new product, Product BZ, and has asked Division Alpha to supply the auto component, Component AX, that is needed in the new product. Each unit of Product BZ will require one Component AX. This Component will not be sold by Division Alpha to external customers. Division Alpha has quoted a transfer price to Division Beta of ₹40 for each unit of Component AX.

It is the policy of the company to reward managers based on their individual division's return on capital employed.

Division Alpha produces the Component AX in batches of 1,000 units. The maximum capacity is 8,000 Components per month. Variable costs amount to ₹12 per component. Fixed costs per month are ₹60,000.00 which is specifically incurred to produce Component AX.

Product BZ will be produced in batches of 1,000 units in Division Beta. The maximum customer demand is 8,000 units of Product BZ. Variable costs will be ₹8 per unit plus the cost of component AX. Fixed costs of ₹90,000.00 are to be incurred specifically to produce Product BZ.

The head of Division Beta has given the following forecast:

Demand	Selling price per unit (₹)
2,000 units	120
4,000 units	100

5,000 units	90
6,000 units	82
7,000 units	70
8,000 units	65

Required

(a) CALCULATE, based on a transfer price of ₹40 per Component AX, the monthly profit that would be earned as a result of selling Product BZ by (Here the situation is governed by the actions of the manager of Division Beta) :

(i) Division Beta

(ii) Division Alpha

(iii) Company as a whole **(5 Marks)**

(b) FIND out the profit maximizing output from the sale of Product BZ for the Hind Multinational Ltd. **(5 Marks)**

(c) CALCULATE, using the marginal cost of Component AX as the transfer price, the monthly profit that would be earned as a result of selling Product BZ by

(i) Division Alpha

(ii) Division Beta

(iii) Company as a whole **(3 Marks)**

(d) The Operation Head of the company requires internal transfer between the divisions at marginal cost from the overall company's perspectives. If marginal cost is used as the transfer price the manager of the Division Alpha will not be motivated as there will be no incentive to the division to transfer components internally.

What transfer pricing policy would you SUGGEST to help the company to overcome the conflict between optimum decision making and performance evaluation?

(7 Marks)

4. (a) The MD of PJ Limited, 160 persons engineering company, decided it was time to fire the company's biggest client. Although the client provided close to 65% of the company's annual revenue, PJ Limited decided that dropping this client was necessary. The client was profitable.

The MD of PJ 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, PJ Limited was able to cut costs and obtain new customers to fill the void. Moreover, the dropped client later gave PJ Limited two projects on more equitable terms.

Required

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

(b) A company is planning a new product. Market research information suggests that 40,000 units of the product can be sold at a maximum of ₹ 25 per unit. The company seeks a minimum mark-up of 25% on product cost. It is estimated that the lifetime costs of the product will be as follows:

(1) Research and development, design costs ₹1,50,000

(2) Manufacturing costs ₹16 per unit

(3) End of life costs ₹70,000

(4) Promotion and capacity cost ₹20,000

Should the product be manufactured? COMMENT. **(5 Marks)**

OR

IDENTIFY correct pair of statement.

Differentiation can be achieved by	Decentralization
Process of obtaining services	Innovation
Process Acceptance	Economy
Cutting departmental expenditure by 5%	Procurement
Improves the motivation of junior managers	Appraisal Cost

(5 Marks)

(c) 'Mx' and 'Nx' are two customers of N Electronics Ltd., a manufacturer of audio players. Selling price per unit is ₹5,400. Its cost of production per unit is ₹4,420.

Additional costs are:

Order Processing Cost.....₹2,000 per order

Delivery Costs.....₹3,500 per delivery

Details of customers 'Mx' and 'Nx' for the period are given below:

	Customer 'Mx'	**Customer 'Nx'**
Audio Players purchased (nos.)	350	500
No. of orders	5 (each of 70 units)	10 (each of 50 units)
No. of deliveries	5	0

The company's policy is to give a discount of 5% on the selling price on orders for 50 units or more, and to further give 8% discount on the undiscounted selling price if a customer uses his own transport of collect the order. Assume that production levels are not altered by these orders.

Required

(i) ANALYSE the profitability by comparing profit per unit for each customer. **(6 Marks)**

(ii) COMMENT on the discount policy on delivery. **(4 Marks)**

5. (a) Innovation Ltd. has entered into a contract to supply a component to a company which manufactures electronic equipments.

Expected demand for the component will be 70,000 units totally for all the periods. Expected sales and production cost will be

Period	1	2	3	4
Sales (units)	9,500	17,000	18,500	25,000
Variable cost per unit	30	30	32.50	35

Total fixed overheads are expected to be ₹14 lakhs for all the periods.

The production manager has to decide about the production plan.

The choices are:

Plan 1:

Produce at a constant rate of 17,500 units per period. Inventory holding costs will be ₹ 6.50 per unit of average inventory per period.

Plan 2:

Use a just-in-Time (JIT) system

Maximum capacity per period normally……..18,000 units

It can produce further up to 10,000 units per period in overtime.

Each unit produced in overtime would incur additional cost equal to 30% of the expected variable cost per unit of that period.

Assume zero opening inventory.

Required

(i) CALCULATE the incremental production cost and the savings in inventory holding cost by JIT production system. **(5 Marks)**

(ii) ADVISE the company on the choice of a plan. **(5 Marks)**

(b) *"It's frustrating working with David. He's very dominant and expects everything to be done his way. We have done more and better work to get up to budget, and the minute we make it he tightens the budget on us. We can't work any faster and still maintain quality. We always seem to be interrupting the big jobs for all those small rush orders. The accountants seem to know everything that's happening in my department, sometimes even before I do. I thought all that budget and accounting stuff was supposed to help, but it just gets me into trouble. I'm trying to put out quality work; they're trying to save money. This is a dead end job. I don't see much of a future here."*

– said Mr. Singh, manager of the machine shop of Global Mfg. Ltd. a UK based Company.

Mr. Singh had just attended the monthly performance evaluation meeting for plant department heads. These meetings had been held on the third Friday of each month since Mr. David, MBA from Manchester University, had joined the Indian operations a year earlier. Mr. Singh had just been given the worst evaluation he had ever received in his long career with Global Mfg. Ltd. He was the most respected of the experienced machinists in the company. Old Plant Manager had often stated that the company's success was due to the high quality of the work of machinists like Mr. Singh. He had been with Global Mfg. Ltd. for many years and was promoted to supervisor of the machine shop when the company expanded and moved to its present location. As supervisor, Mr. Singh stressed the importance of craftsmanship and told his workers that he wanted no careless work coming from his department.

When Mr. David became the plant manager, he directed that monthly performance comparisons be made between actual and budgeted costs for each department. The departmental budgets were intended to encourage the supervisors to reduce inefficiencies and to seek cost reduction opportunities. The company controller was instructed to have his staff 'tighten' the budget slightly whenever a department attained its budget in a given month; this was done to reinforce the plant supervisor's desire to reduce costs. Mr. David often stressed the importance of continued progress toward attaining the budget; he also made it know that he kept a file of these performance reports for future reference.

Required

IDENTIFY the problems which appear to exist in budgetary control system and EXPLAIN how budgetary control system could be revised to improve the effectiveness. **(10 Marks)**

6. (a) **Chemp.X Ltd.** is a chemical manufacturing company. It has received a special project that needs to be completed executed 3 months from the time it is accepted. The management has to communicate its acceptance or rejection of the project within few days. They have approached you, the management accountant to work out the costing for this project. Following is the information available:

1. Financing:

   The company would require a short-term overdraft of ₹5,00,000 immediately in order to execute the project. Bank charges an interest of 10% per annum on this overdraft. This overdraft facility would be needed for the duration of the project, that is 3 months and would be repaid in full at the end of the period.

2. Materials:

   Chemp.X Ltd. has a stock of inventory of 5,000 kg on hand that is not of immediate use. It can be sold as scrap in the market at ₹250 per kg. The special project requires 3,000 kg of this inventory which can be replaced at the current market price of ₹300 per kg.

3. Labour:

   (a) All skilled workers currently work full time in their respective departments, there are no idle hours. For this special project, 5 workers would be needed from other departments. They would totally devote 2,000 hours of labour time to this project. The cost of labour per hour is ₹300. Since their working hours have been diverted to this project, the production in the other departments cannot be met. Hence, the company would incur a loss of contribution of ₹1,00,000 for these 2,000 hours. Alternatively, the company can outsource the labour for this special project at a total cost of ₹6,25,000. The management will opt for the more cost-effective option as the quality of both in-house manufacturing and outsourcing is the same.

   (b) Overtime payment to inspection supervisor, who checks the final products would be ₹25,000. This would be incurred irrespective of whether the labour is in-house or outsourced.

4. Machine X-2.1”

   This project would require the use of an existing machine X-2.1”. Depreciation of X-2.1” is ₹40,000 per annum. The variable operating cost of X-2.1” for the three-month period would be ₹3,00,000. At present, X-2.1” is operating at full capacity. By diverting it exclusively for the special project would cost the company a loss of contribution of ₹1,00,000 for the three-month period.

5. Administration overheads include apportionment cost of ₹25,000 and an incremental cost (incurred specifically due to the acceptance of the project) of ₹10,000.

6. Total revenue that the company can earn from the project is ₹20,00,000.

Required

COMMENT whether the special project should be accepted or not. Also give a complete ANALYSIS of the special project cost based on the principles of relevant costing. **(10 Marks)**

(b) Q2 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_2H_6O) 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_2H_6O) 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)**