

MOCK TEST PAPER - 1

FINAL (NEW): 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. KTM Electronics manufactures and sells various electronic goods like mobile phones, laptops, televisions, refrigerator etc. The company sells these goods through the 30 stores situated in different parts of the country. The store managers place a request to the centralised team situated in Mumbai on a monthly basis. One store can send only one requisition per month.

The requirements of the stores are forwarded to the production planning team which is responsible for scheduling the manufacturing of these products. Once the goods are manufactured, the goods are sent to a central warehouse in Mumbai and are dispatched to different stores according to the store requirements. The time taken from placing a request from store to the delivery of product to the store takes about 30-40 days on an average. In the process the company procures parts from more than 100 vendors. The company has faced quality related issues with many vendors leading to delay in production.

The average holding period of inventory in KTM Electronics is very high at 45 days as against an industry average of 15 days. Since the order to delivery time at a store is very high, the company has traditionally allowed high inventory holding to reduce the stock outs at store level. The company is under severe pressure to improve its working capital cycle.

A high amount of inventory held at each store also means that the products become obsolete quickly. In case of products like mobile phones, new and upgraded versions are available in the market as early as six months from the date of initial launch of a particular model. A significant portion of inventory of mobile phones becomes obsolete every year. The company generally resorts to a discounted sale to liquidate such obsolete models.

The management at KTM Electronics has identified e-commerce as an opportunity for faster growth, both in terms of revenues and profitability. The company is considering launch of its own e-commerce website to sell all products which are currently being sold in physical stores. Depending upon the success of online sales, the company might choose to optimize and close certain physical stores in the next couple of years.

The management of the company is cognizant of the fact that existing inventory procurement and management system will not fit in the new e-commerce business. E-commerce works on a inventory light model and quick as well as on time delivery of products of the customers. The fact that customers could be from a location other than those where KTM Electronics has physical presence makes the matter complex.

Required

The company is considering implementation of a supply chain management system. Will a supply chain management system be of use to KTM Electronics in light of the e-commerce venture? You are required to EXPLAIN the concept of Supply Chain Management and EVALUATE the applicability of in the current case. **(20 Marks)**

2. Cool Air Private Ltd. manufactures electronic components for cars. Car manufacturers are the primary customers of these products. Raw material components are bought, assembled and the electronic car components are sold to the customers.

The market demand for these components is 500,000 units per annum. Cool Air has a market share of 100,000 units per annum (20% market share) for its products. Below are some of the details relating to the product:

Selling price	Rs. 2,500 per unit
Raw material cost	Rs. 900 per unit
Assembly & machine cost	Rs. 500 per unit
Delivery cost	Rs. 100 per unit
Contribution	Rs. 1,000 per unit

The customers due to defects in the product return 5,000 units each year. They are replaced free of charge by Cool Air. The replaced components cannot be repaired and do not have any scrap value. If these defective components had not been supplied, that is had the sale returns due to defective units been nil, customers' perception about the quality of the product would improve. This could yield 10% increase in market share for Cool Air, that is demand for its products could increase to 150,000 units per annum.

Required

- (i) ANALYZE, the cost of poor quality per annum due to supply of defective items to the customers. **(5 Marks)**

 - (ii) The company management is considering a proposal to implement an inspection process immediately before delivery of products to the customers. This would ensure nil sales returns. The cost of having such a facility would be Rs.2 crores per annum, this would include materials and equipment for quality check, overheads and utilities, salaries to quality control inspectors etc. ANALYZE the net benefit, if any, to the company if it implements this proposal. **(5 Marks)**

 - (iii) Quality control investigations reveal that defective production is entirely on account of inferior quality raw material components procured from a large base of 30 suppliers. Currently there is no inspection at the procurement stage to check the quality of these materials. The management has a proposal to have inspectors check the quality control at the procurement stage itself. Any defective raw material component will be replaced free of cost by the supplier. This will ensure that no product produced by Cool Air is defective. The cost of inspection for quality control (materials, equipment, salaries of inspectors etc.) would be Rs.4 crore per annum. ANALYZE the net benefit to the company if it implements this proposal? Please note that scenarios in questions (ii) and (iii) are independent and not related to each other. **(5 Marks)**

 - (iv) Between inspection at the end of the process and inspection at the raw material procurement stage, ADVISE a better proposal to implement (a) in terms of profitability and (b) in terms of long term business strategy? **(5 Marks)**
3. Beta Control (BC) is a global leader in manufacturing of commercial building control systems with over 250 distributors and many thousands of installations in more than 50 countries. Control systems involve air conditioning systems, facility management, energy and water management, access control and security controls etc. At BC, manufacturing is done at a number of factory sites where some products are easy and largely produced and have a long life while other products are intricately and have a short life due to changing technologies. BC's mission statement is 'to keep you ahead through control systems that improve productivity and save energy'.

A Newly appointed chief executive officer (CEO) is anxious about declining share price of BC in the last two years. She identified that the business has grown through acquisition and senior management have focused on making corporate deals but not on making control systems. She announced that the BC's focus must be on optimization and upgradation of its value generation rather than just getting bigger through acquisitions.

Assuming yourself as a performance management expert of BC, the CEO has asked you to aid her in her improvement programme. Firstly, she wants your views on the use of EVA as the key performance metric at BC. You are given the current EVA computation (Annexure1) but there is some suspicion about whether the assistant who has done this work is sufficiently well trained about this method. So, she requires you to examine his accuracy and the assumptions forming part of the calculation.

Required

Write a report to the chief executive officer to EVALUATE the accuracy of the EVA calculation and the assumptions.

Annexure 1

NOPAT

Particulars	Year ended 31 st March 2018	
	Rs. in Lacs (L)	Notes
Operating Profit	1,102.80	
<i>Add:</i>		
Non-Cash Expenses	30.20	
Marketing Expenditure Capitalised	46.20	7
<i>Less:</i>		
Tax	269.60	9
Lost Tax Relief on Interest	48.96	
Net Operating Profit After Tax (NOPAT)	860.64	

Capital Employed

Particulars	Year ended 31 st March 2018	
	Rs. in Lacs (L)	Notes
From the Statement of Financial Position	4,802.00	10
<i>Add:</i>		
Marketing Expenditure Capitalized	46.20	7
Adjusted Capital Employed	4,848.20	

$$\text{WACC} = (1/2 \times 15\%) + (1/2 \times 7.8\%)$$

$$= 11.40\%$$

$$\text{EVA} = \text{NOPAT} - (\text{WACC} \times \text{Capital Employed})$$

$$= \text{Rs.}860.64 \text{ L} - \text{Rs.} 4,848.20 \text{ L} \times 11.40\%$$

$$= \text{Rs.}860.64 \text{ L} - \text{Rs.}552.69 \text{ L}$$

$$= \text{Rs.}307.95 \text{ L}$$

Assumptions and Notes

1. Debt/Equity 1:1
2. Cost of Equity is 15.00%
3. Cost of Debt (pre-tax) is 7.80%

4. Tax Rate is 30.00%
5. Interest charged in the period was Rs.163.20 L.
6. In current fiscal year, BC spend Rs.80.00 L in Training and Development by leveraging the latest digital technologies including virtual classrooms to deliver highly relevant training to staff at the point of need.
7. Marketing Expenditure has been Rs.46.20 L each year for the last two years to build the long- term brand.
8. The total R & D spending was Rs.20 L during this year for in- depth study of the TCP/IP protocols. The TCP/IP based products have not been launched yet.
9. BC has paid Tax of Rs.260 L while the tax charged per the accounts was Rs.269.60 L.
10. Capital employed during the Period (from the statement of financial position):

Opening	4,564.00 L
Closing	4,802.00 L

(20 Marks)

4. (a) WDG is a family owned business. The family owns 80% of the shares. The remaining 20% is owned by six non- family shareholders. It manufactures Cardboard Boxes for customers which are mainly manufacturers of shoes, cloths, crackers etc. Now, the board is considering to join the Paper Tubes market as well. Paper Tubes, also known as Cardboard Tubes, are cylinder-shaped components that are made with Cardboard. Paper Tubes can be used for a wide range of functions. Paper Tubes are usually ordered in bulk by many industries that rely Paper Tubes include food processing, shipping and the postal service, automotive manufacturing, material handling, textile, pulp and paper, packaging, and art etc. The Paper Tubes cost approximately 1% - 3% of the total cost of the customer's finished goods. The information about Paper Tubes is as follows:
 - (i) The Paper Tubes are made in machines of different size. The lowest cost machine is of Rs.1,89,000 including GST @ 5% and only one operator is required to run this machine. Two days training program is required to enable untrained person to run such a machine efficiently and effectively. A special paper is used in making Paper Tubes and this paper remains in short supply.
 - (ii) Presently, five major manufacturers of Paper Tubes have a total market share of 75%, offer product ranges which are similar in size and quality. The market leader currently has 24% share and the four remaining competitors hold on average 12.75% share. The annual market growth is 3% per annum during recent years.
 - (iii) A current report "Insight on Global Activities of Foreign Based MNCs" released the news that now MNC's are planning to expand their packaging operations in overseas market by installing automated machines to produce Paper Tubes of any size.
 - (iv) Another company, HEG manufactures a small, however increasing, range of Plastic Tubes which are capable of housing small products such as foils and paper-based products. Currently, these tubes are on an average 15% more costly than the equivalent sized Paper Tubes.

Required

ASSESS whether WDG should join the Paper Tubes market as a performance improvement strategy? Note: Use Michael Porter's Five Forces Model. **(10 Marks)**

- (b) XYZ Airlines has two divisions organised as profit centres, the Passenger Division and the Cargo Division. The following divisional informations were given for the year ended 31st March 2018:

	Cargo Division	Passenger Division	Total
Number of personnel trained	200	800	1,000
Number of flights	350	250	600
Number of reservations requested	Nil	7,000	7,000
Revenue	Rs.42,00,000	Rs.42,00,000	Rs.84,00,000
Operating Expenses (excluding service department charges)	Rs.36,00,000	Rs.28,50,000	Rs.64,50,000
Service Department Charges:			
Training	Rs.3,20,000	Rs.3,20,000	Rs.6,40,000
Flight Scheduling	Rs.1,50,000	Rs.1,50,000	Rs.3,00,000
Reservation	Rs.1,05,000	Rs.1,05,000	Rs.2,10,000

The service department charge rate for the service department costs was based on revenue. Since the revenue of both the divisions were the same, the service department charges to each division were also the same.

Required

- (i) Does the income from operations for the two divisions accurately measure performance?
(3 Marks)
- (ii) PREPARE the divisional income statement using the activity bases provided above in revising the service department charges.
(7 Marks)
5. (a) BNZ Ltd. is engaged in the manufacture of plastic bottles of a standard size and produced by a joint process of machines. The factory has 5 machines and capable of producing 40 bottles per hour. The variable cost per bottle is Rs. 0.32 and the selling price is Rs. 0.80 each. The company has received an offer from another company for manufacture of 40,000 units of a plastic moulded toy. The price per toy is Rs. 30 and the variable, cost is Rs.24 each. In case of the company takes up the job, it has to meet the expenses of making a special mould required for the manufacture of the toy. The cost of the mould is Rs.1,00,000. The company's time study analysis shows that the machines can produce only 16 toys per hour. The company has a total capacity of 10,000 hours during the period in which the toy is required to be manufactured. The fixed costs excluding the cost of construction of the mould during the period will be Rs.10 Lakh.

The company has an order for the supply of 3,00,000 bottles during the period.

Required

- (i) Do you ADVISE the company to take up the order for manufacturing plastic moulded toys during the time when it has an order in its book for the supply of 3,00,000 bottles. (3 Marks)
- (ii) If the order for the supply of bottles increases to 4,00,000 bottles, will you ADVISE the company to accept the order for the supply of plastic moulded toys? State the reasons.
(3 Marks)
- (iii) An associate company of BNZ Ltd. has idle capacity and is willing to take up the whole or part of the manufacturing of the plastic moulded toys on sub-contracting basis. The subcontract price inclusive of the cost of construction of mould is Rs. 28 per toy. DETERMINE the

minimum expected excess machine hour capacity needed to justify producing any portion of the toy order by the company itself rather than subcontracting. **(4 Marks)**

- (b) KPM, a leading school of management in the heart of India's financial centre of Mumbai, preparing its budget for 2019. In previous years, the director of the school has prepared the budget without the participation of senior staff and presented it to the school board for approval.

Last year the KPM board blasted the director over the lack of participation of his senior staff in the budget process for 2018 and requested that for the 2019 budget the senior staff were to be involved.

Required

LIST the potential advantages and disadvantages to the KPM of involving the senior staff in the budget preparation process. **(10 Marks)**

6. (a) The budgeted cost data of a product manufactured by KLM Ltd. is furnished as below:

Budgeted units to be produced	2,00,000
Variable cost (Rs.)	32 per unit
Fixed cost (Rs.)	16 lacs

It is proposed to adopt cost plus pricing approach with a mark-up of 25% on full budgeted cost basis.

However, research by the marketing department indicates that demand of the product in the market is price sensitive. The likely market responses are as follows:

Selling Price (Rs. per unit)	44	48	50	56	60
Annual Demand (units)	1,68,000	1,52,000	1,40,000	1,28,000	1,08,000

Required

ANALYSE the above situation and DETERMINE the best course of action. **(10 Marks)**

- (b) Managing Director of KL Ltd thinks that Standard Costing has little to offer in the reporting of material variances due to frequently change in price of materials.

KL can utilize one of two equally suitable raw materials and always plan to utilize the raw material which will lead to cheapest total production costs. However, KL is frequently trapped by price changes and the material actually used often provides, after the event, to have been more expensive than the alternative which was originally rejected.

During last accounting period, to produce a unit of 'N' KL could use either 2.50 Kg of 'G' or 2.50 kg of 'D'. KL planned to use 'G' as it appeared it would be cheaper of the two and plans were based on a cost of 'G' of Rs.1.50 per Kg. Due to market movements, the actual prices changed and if KL had purchased efficiently the cost would have been:

'G' Rs.2.25 per Kg;

'D' Rs.2.00 per Kg

Production of 'N' was 1,000 units and usage of 'G' amounted to 2,700 Kg at a total cost of Rs. 6,480/-

Required

CALCULATE the material variance for 'N' by:

- (i) Traditional Variance Analysis; and
 (ii) An approach which distinguishes between Planning and Operational Variances. **(10 Marks)**