

**CMA DECEMBER, 2019 EXAMINATION
PROFESSIONAL LEVEL-IV
SUBJECT: 402. STRATEGIC MANAGEMENT ACCOUNTING**

Time: Three hours

Full Marks: 100

- ❖ All questions are to be attempted.
- ❖ Show computations, where necessary.
- ❖ Answer must be brief, relevant, neat and clean.
- ❖ Start answering each question from a fresh sheet.

Q. No. 1

- (a) Officials at Dundas Manufacturing have just completed a post-implementation audit of a distribution center that was built 2 years ago at a cost of Tk.15,000,000. The marketing group had proposed the warehouse investment arguing that it would improve sales by increasing product quality and improving customer service. The expected rate of return on this investment was 18%, however, the actual return on this investment to date has fallen far below this estimate and it is even below the company's cost of capital of 11%. The post-implementation audit concluded that the managers proposing this investment were ambitious, to the point of being reckless, in making the estimates underlying the project's proposals and argued that the investment should never have been made.

In response, the two managers who proposed the project argue that the proposal was a good one based on estimates that seemed sound at the time. However, several uncontrollable events, including the entry of a new competitor into the market, caused results to be lower than expected. Moreover, the two managers argue that results would have been even worse for the company if the investment had not been made. How would you deal with this situation?

- (b) Is the ability of a management accounting and control system to diagnose out-of-control situations sufficient for proper control? Why or why not?
- (c) Why is it important that a well-designed management accounting and control system focus on more than manufacturing?
- (d) Carey Manufacturing, Inc., is considering reorganizing its plant into manufacturing cells. The following estimates have been prepared to evaluate the benefits from the reorganization:

	<u>Before the change</u>	<u>After the change</u>
Total annual sales	Tk.700,000	Tk.850,000
Costs as percentage of sales:		
Direct materials	10%	9%
Direct labor	6%	4%
Support costs	9%	7%
Work-in-process inventory	Tk.200,000	Tk.120,000

Inventory carrying costs are estimated to be 12% per year.

Required:

- (i) Why do the layout reorganization estimates include
1. a decrease in work-in-process inventory?
 2. a decrease in direct material costs as a percentage of sales?
 3. an increase in sales?
- (ii) As a result of the layout reorganization, what amount of change is projected
1. from carrying reduced levels of work-in-process inventory?
 2. for incremental manufacturing costs?
 3. in total benefits?

[Marks: (5+4+4+12) = 25]

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Q. No. 2

- (a) The Custom Shirt House is concerned about its declining sales, especially the reduction in the number of customers. For the last two years, its shirts have won industry awards for high quality and trend-setting styles. At the latest executive managers' meeting, everyone was blaming everyone else for the decline. After much discussion and the presenting of some fact-finding information, it was determined that sales relationships were the cause of most of the problems.

Required:

What may be some of the causes and how can the causes be detected if product quality is not an issue?

- (b) Design Products is committed to its quality program. It works with all areas of the company to establish sound quality programs within reasonable budget guidelines. For 20x3, it has budgeted \$1,000,000 for prevention costs and \$800,000 for appraisal costs. Internal failure has a budget of \$100 per failed item, while external failure has a total budget of \$600,000. Product Testing has proposed to management a change in the 20x3 budget for a new method of testing products. If management decides to implement the new method, \$2 per unit of appraisal costs will be saved, up to a level of 200,000 tests. No additional savings are expected past the 200,000 level. The new method involves \$110,000 in training costs and \$60,000 in yearly testing supplies. Traditionally, 3% of all completed items have to be reworked. External failure costs average \$120 per failed unit. The company's average external failures are 1% of units sold. The company carries no ending inventories.

Required:

- (i) What is the adjusted budget for appraisal costs, assuming the new method is implemented and 800,000 units are tested during the manufacturing process in 20x3?
- (ii) How much do internal failure costs change, assuming 600,000 units are tested under the new method and it reduces the amount of unacceptable units in the manufacturing process by 40%?
- (iii) What would be the change in the external failure budget, assuming external failures are reduced by 60% and the same facts as in part (ii)?
- (c) Better Food Company recently acquired an olive oil processing company that has an annual capacity of 2,000,000 liters and that processed and sold 1,400,000 liters last year at a market price of \$4 per liter. The purpose of the acquisition was to furnish oil for the Cooking Division. The Cooking Division needs 800,000 liters of oil per year. It has been purchasing oil from suppliers at the market price. Production costs at capacity of the olive oil company, now a division, are as follows:

Direct materials per liter	\$1.00
Direct processing labor	0.50
Variable processing overhead	0.24
Fixed processing overhead	0.40
Total	\$2.14

Management is trying to decide what transfer price to use for sales from the newly acquired company to the Cooking Division. The manager of the Olive Oil Division argues that \$4, the market price, is appropriate. The manager of the Cooking Division argues that the cost of \$2.14 should be used, or perhaps a lower price, since fixed overhead cost should be recomputed with the larger volume. Any output of the Olive Oil Division not sold to the Cooking Division can be sold to outsiders for \$4 per liter.

Required:

- (i) Compute the operating income for the Olive Oil Division using a transfer price of \$4.
- (ii) Compute the operating income for the Olive Oil Division using a transfer price of \$2.14.
- (iii) What transfer price(s) do you recommend? Compute the operating income for the Olive Oil Division using your recommendation.

[Marks: (6+7+12) = 25]

Q. No. 3

- (a) If there is any conflict between NPV and IRR, which one would you prefer and why? Give some examples of typical capital budgeting decisions? The expected annual net cash inflow from a project is \$22,000 over the next 5 years. The required investment now in the project is \$79,310. What is the internal rate of return on the project?
- (b) Assume that all of the cash flows related to an investment in a supertanker have been estimated, except for its salvage value in 20 years. Using a discount rate of 12%, management has determined that the net present value of all the cash flows, except the salvage value is a negative \$1.04 million. How large would the salvage value need to be to make this investment attractive?
- (c) Bay Architects is considering a drafting machine that would cost \$100,000, last four years, and provide annual cash savings of \$10,000 and considerable intangible benefits each year. How large (in cash terms) would the intangible benefits have to be per year to justify investing in the machine if the discount rate is 14%?
- (d) Denny Associates has been offered a four-year contract to supply the computing requirements for a local bank. Cost of computer equipment 250,000; Working capital required 20,000; Upgrading of equipment in 2 years 90,000; Salvage value of equipment in 4 years 10,000; Annual net cash inflow 1,20,000. The working capital would be released at the end of the contract. Denny Associates requires a 14% return. What is the net present value of the contract with the local bank?

[Marks: (2+2+3)+4+6+8 = 25]

Q. No. 4

- (a) Define the term 'downsizing' and 'partial productivity measure'?
- (b) "We are already measuring total factor productivity. Measuring partial productivities would be of no value." Do you agree?
- (c) Gerhart Company manufactures wallets from fabric. In 2011, Gerhart made 2,520,000 wallets using 2,000,000 yards of fabric. In 2011, Gerhart has capacity to make 3,307,500 wallets and incurs a cost of \$9,922,500 for this capacity. In 2012, Gerhart plans to make 2,646,000 wallets, make fabric use more efficient, and reduce capacity. Suppose that in 2012 Gerhart makes 2,646,000 wallets, uses 1,764,000 yards of fabric, and reduces capacity to 2,700,000 wallets, incurring a cost of \$8,370,000 for this capacity.

Required:

- (i) Calculate the partial-productivity ratios for materials and conversion (capacity costs) for 2012, and compare them to a benchmark for 2011 calculated based on 2012 output.
- (ii) Refer to the original data, assume the fabric costs \$3.70 per yard in 2012 and \$3.85 per yard in 2011.
 - (a) Compute Gerhart Company's total factor productivity (TFP) for 2012.
 - (b) Compare TFP for 2012 with a benchmark TFP for 2011 inputs based on 2012 prices and output.

[Marks: 4+3+(8+5+5) = 25]

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