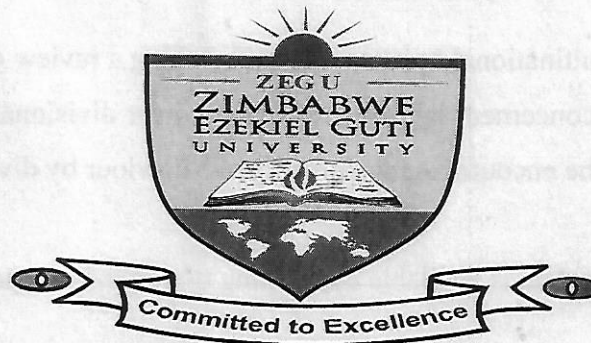


ZIMBABWE EZEKEL GUTI UNIVERSITY



FACULTY OF COMMERCE

DEPARTMENT OF ACCOUNTING AND FINANCE

COURSE: STRATEGIC PERFORMANCE MANAGEMENT

COURSE CODE: CAC403

14 JUNE 2018

DURATION: 3 HOURS

INSTRUCTIONS

- 1. Answer all questions**
- 2. Show all your workings**
- 3. Write neatly**
- 4. Start each question on a separate page**

Questions 1

Tipp PLC, a large multinational company, is undertaking a review of its organisational structure. Top management is concerned that the methods used for divisional performance evaluation and transfer pricing may be encouraging dysfunctional behaviour by division managers.

The following sample data is available concerning two of the company's divisions for last year:

	Division A	Division B
Operating profit	\$152,000	\$72,000
Capital invested	\$1,600,000	\$576,000

The cost of capital is 7% for both divisions. It can be assumed that there are no intra-company transfers between Divisions A and B.

Required:

- Calculate the Return On Investment (ROI) and residual income for each division. Explain which of these two measures (ROI or residual income) gives the clearer indication of divisional contribution to the overall success of Tipp PLC. **(8 marks)**
- Assume that ROI is used for divisional performance evaluation purposes. How would each of the two division managers react to an additional investment opportunity which would increase operating profit by \$23,000 but would require capital investment of \$220,000? Are their reactions in the best interests of the company's shareholders? Justify your answer. **(6 marks)**
- At what cost of capital would the two divisions have the same residual income? (In answering this part, ignore the additional investment opportunity in part (b) above). **(5 marks)**
- Although there are no intra-company transfers between Divisions A and B, there are a significant number of intracompany transfers between other divisions of Tipp PLC. Discuss the circumstances in which it is feasible and appropriate to use external market prices as the basis for setting transfer prices in such cases. **(6 marks)**

Question 2

Portland Ltd. consists of several autonomous divisions. Divisional managers have authority to make additional capital investments each year, subject to certain maximum capital expenditure limits. Until now the annual bonus paid to each divisional manager has been determined on the basis of his or her division's profit, but the company is now considering the possibility of switching to a system based on Residual Income (RI). In calculating RI, the following rules would apply:

- Straight-line depreciation (with an assumption of a zero residual value) would be applied to fixed assets.
- Profits or losses on disposal of fixed assets would be included in RI.
- The total capital in a division in any year would be measured as the net book value of fixed assets at the beginning of the year plus average net current assets for the year.

The company's accountant plans to demonstrate the likely effect of RI-based performance measurement using the following two hypothetical projects available to a divisional manager:

- Project A involves investing \$105,000 immediately in a robot. This would generate savings of 39,000 per annum in the company's manufacturing costs over the next 3 years. The scrap value of the robot would be 30,000 in three years' time.
- Project B involves a 3-year contract to supply goods (with a sales value of \$200,000 per annum) to an overseas customer. The contribution margin on these sales would be 25%, and there would be incremental fixed costs of \$40,000 per annum from hiring specialist production equipment. The average investment in trade debtors and inventory directly arising from this project would be \$120,000.

It can be assumed that all cash flows arise at the end of the year to which they relate (except where otherwise stated) and that the cost of capital is 12% per annum.

Required:

- (a) Calculate the Residual Income and Net Present Value of each project. (15 marks)
- (b) Discuss whether the linking of divisional managers' bonuses to Residual Income will increase the likelihood that the division managers will take decisions that are in shareholders' best interests. Use Projects A and B to illustrate your answer. (10 marks)

Question 3

Invercargill Ltd. is a divisionalised company. Each month the company's Chemicals Division manufactures 60,000 tons of a product which it sells to external customers at a price of \$200 per ton. The fixed costs of the Chemicals Division are \$2,880,000 per month and the marginal costs of production and sale amount to \$90 per ton. An absorption costing system is used to work out a 'full cost per ton' on the basis of this level of cost and activity.

Another division of the company (the Detergents Division) buys 20,000 tons of a very similar chemical from an external supplier each month at a price of \$150 per ton. However, the Chemicals Division has sufficient spare capacity to enable it to supply the monthly needs of the Detergents Division. The transfer price which the Chemicals Division would charge would be the 'full cost per ton' as calculated on the basis of the increased level of output. The Detergents Division has indicated that this transfer price would be acceptable.

Required:

- (a) Calculate the transfer price proposed by the Chemicals Division, and show that this transfer pricing arrangement will motivate both divisions to act in a manner which is in the best interests of Invercargill Ltd. as a whole. (7 marks)
- (b) Assume now that the two divisions cannot agree on transfer pricing arrangements for the 20,000 tons. Specifically, the Chemicals Division will not accept any price lower than \$145 per ton but the Detergents Division will not agree to pay any price higher than \$95 per ton. Discuss whether, in these circumstances, the board of directors of Invercargill Ltd. should intervene to order the divisions to make the transfer at the price calculated in your answer to part (a). (9 marks)
- (c) Assume now that the Detergents Division requires a further 5,000 tons per month (in addition to the 20,000 tons), but that the Chemicals Division has no additional spare capacity and therefore these 5,000 tons could only be provided to the Detergents Division if the Chemicals Division were to reduce sales to its external customers by an equivalent amount. Assume also that the marginal cost to the Chemicals Division of supplying a ton to the Detergents Division is \$3 lower than the cost of supplying a ton to an external customer. What is the appropriate transfer price per ton for these 5,000 tons? Explain your answer. (4 marks)

Question 4

Ludo Limited manufactures a specialised storage accessory for automobiles called 'the Storax', which is a type of pocket which can be easily fixed in the boot of any vehicle. The company has been in operation for two years and, now that the production process has been established and refined, the directors have decided to focus on the income and costs arising from activities. The managing director has recently read an article about product costing and, in particular, absorption and variable costing and is keen to understand how this would affect company profits.

The following information is available for the months of July and August:

	July	August
Production (units)	13,000	15,000
Sales (units)	12,000	16,000
Direct materials	\$29,250	\$33,750
Direct labour	\$19,500	\$22,500
Variable production overheads	\$7,800	\$9,000
Total selling and administrative expenses	\$45,200	\$57,600

Additional information:

1. For Ludo Limited normal production capacity is 15,000 units per month.
2. Fixed production overheads are \$29,400 per month.
3. The company sells 'the Storax' for \$20 each.
4. Total selling and administrative expenses includes a fixed and variable element. The variable portion is incurred based on units sold.
5. At 30 June the company had no 'Storax' accessories in its warehouse.

Required:

- (a) Prepare profit statements for Ludo Limited for the months of July and August using:
 - (i) Absorption costing
 - (ii) Throughput accounting (20 marks)
- (b) Reconcile the profit calculated using Absorption costing to that calculated using Variable costing. (3 marks)
- (c) Provide a brief explanation of the effect on profit of using each of the methods at (a) above. (2 marks)

THE END