**Managerial**

**Question1: Investment appraisal (21 marks)**

1. RWE Enterprises Ltd is a small manufacturing firm located in New Plymouth. The firm is engaged in the manufacture and sale of feed supplements used by cattle raisers. The product has molasses base but is supplemented with minerals and vitamins that are generally thought to be essential to the health and growth of beef cattle. The final product is put in 75-kg or 100-kg tubs that are then made available for the cattle to lick as desired. The material in the tub becomes very hard, which limits the animal’s consumption.

The firm has been running a single production line for the past five years and is considering the addition of a new line. The addition would expand the firm’s capacity by almost 120% because the newer equipment requires a shorter downtime between batches. After each production run, the boiler used to prepare the molasses for the additional minerals and vitamins must be heated to 85 degrees Celsius and then must be cooled before beginning the next batch. The total production run entails about four hours and the cool-down period is two hours (during which time the whole process comes to a halt). Using two production lines increases the overall efficiency of the operation because workers from the line that is cooling can be moved to the other line to support the ‘canning’ process involved in filling the feed tubs.

The equipment for the second production line will cost $3 million to purchase and install and will have an estimated after-tax scrap value of $200,000. Furthermore, at the end of five years, the production line will have to be refurbished at an estimated cost of $2 million. RWE’s management estimates that the new production line will add $700,000 per year in after tax cash flows to the firm.

 **Required:**

1. If RWE uses a 10% discount factor to evaluate investments of this type, what is the net present value of the project? What does this NPV indicate about the potential value RWE might create by purchasing the new production line?

(6 marks)

1. Calculate the internal rate of return and profitability index for the proposed investment. What do these two measures tell you about the project’s viability?

(6 marks)

1. Calculate the payback and discounted payback periods for the proposed investment. Interpret your findings.

(4 marks)

1. What is the rationale of using MIRR as opposed to IRR decision criteria? Describe the fundamental shortcoming of the MIRR method

 (5 marks)

**Question 2: Time Value of Money (18 Marks)**

1. Bill Petty, age 56 has just retired after 31 years of teaching. He is a husband and father of two children who are still dependent. Bill received a $150,000 lump-sum retirement bonus and will also receive $2,800 per month from a retirement annuity for the rest of his life. He has saved $150,000 in a superannuation fund and another $100,000 in other accounts. His superannuation fund is invested in the share market, but most of his other investments are in bank accounts earning 2% or 3% interest annually. Bill has asked your advice in deciding where to invest his lump-sum bonus and other accounts now that he has retired. He also wants to know how much he can withdraw per month, considering he has two children and a non-working spouse. Because he has children, his current monthly expenses total $5,800. (Ignore tax)

**Required:**

* + 1. Bill has an emergency fund already set aside, so he can use his $400,000 of savings for retirement. How much can he withdraw on a monthly basis if his investments return 5% annually and he expects to live 30 more years?

(2 Marks)

* + 1. Is the amount determined in question 1 sufficient to meet Bill’s current monthly expenses (keep in mind that he will receive a monthly payment of $2,800)? If not, how long will his retirement last if his current expenses remain the same? What if his expenses were reduced to $4,500 per month?

(3 Marks)

* + 1. If the inflation rate averages 3.5% during Bill’s retirement, how old will he be when prices have doubled from current levels? How much will a can of soft drink cost when Bill dies, if he lives the full 30 years and the soft drink costs $1 today?

(3 Marks)

1. You deposited $160,000 into an education savings plan, hoping to have $ 420,000 available 12 years later when your first child starts university. However, you did not invest very well, and two years later, the account’s balance has dropped to $140,000. You approached a financial advisor and he agreed to work with you to get the investment value back on track.
	* 1. What was the original annual rate of return needed to reach your goal when you started the fun two years ago?

(2 Marks)

* + 1. With only $140,000 in the fund and 10 years remaining until your child starts university, what annual rate of return would the fund have to make for you to reach your $420,000 goal if you add nothing to the account?

(2 Marks)

* + 1. Shocked by your experience of the past two years, you feel the education savings fund has invested too much in shares, and you want low-risk fund in order to ensure you have the necessary $420,000 in 10 years. You are willing to make end-of-the-month deposits to the fund as well. You find you can get a fund that promises to pay a guaranteed annual return of 6% that is compounded monthly. You decide to transfer the $140,000 to this new fund and make the necessary monthly deposits. How large a monthly deposit must you make into the new fund each month to obtain the $420,000 required at the end of 10years?

(4 Marks)

* + 1. After seeing how large the monthly deposit would be in part (biii) above, you decide to invest the $140,000 today and $500 at the end of each month for the next 10 years into a fund comprising 50% shares and 50% bonds and hope for the best. What APR would the fund have to earn in order to reach your $420,000 goal?

(2 Marks)

**QUESTION 3: FINANCIAL STATEMENT ANALAYSIS (36 MARKS)**

Using the annual report of a2 milk Company, for 2014-2015, (<https://www.thea2milkcompany.com/wp-content/uploads/2015/09/A2ML00022_a2_REPORT_Spreads_vLR.pdf>) answer the following questions.

(Refer also to the press coverage documents attached in Blackboard - AUTonline)

**Required:**

1. Using the consolidated accounting information, Compute all the ratios that fall under the following categories for the year ended 30/6/15 and for the previous year:
	1. Liquidity
	2. Capital structure
	3. Asset management efficiency
	4. Profitability
	5. Market value

(8 marks)

1. Based on the ratios computed above, write a comprehensive report[[1]](#footnote-1) to the management of a2 milk Company, evaluating the overall financial health of the company in comparison to the prior year. (Your report should synthesise all information obtained from the ratios and arrive at an overall conclusion reflecting industry knowledge rather than interpret each category of ratios independently. You report, in addition to the evaluation of financial health of the firm should also cover the following:
	* 1. The company’s ability to generate cash flows in the future
		2. Its future external financing needs

(Maximum 1000 words excluding appendices)

(10 marks)

1. Assume you are a banker evaluating a loan request from a2 milk Company for $ 150 million. What would be your concerns when making a decision regarding approval or denial of the loan request? Justify.

(Maximum 750 words excluding appendices)

(10 marks)

1. Assume you are an investor in the shares of a2 milk Company and rely on receipt of regular cash dividends as part of your return on investment. You have $ 200,000 available for investment which is currently deposited in a term-deposit at an interest rate of 5.2% per annum which you would like to utilise to buy additional shares in a2 milk Company. The company’s shares are trading at an average price of $1.80 per share. What would your decision be? Justify.

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	4. Profitability
	5. Market value

(8 marks)

1. Based on the ratios computed above, write a comprehensive report[[2]](#footnote-2) to the management of a2 milk Company, evaluating the overall financial health of the company in comparison to the prior year. (Your report should synthesise all information obtained from the ratios and arrive at an overall conclusion reflecting industry knowledge rather than interpret each category of ratios independently. You report, in addition to the evaluation of financial health of the firm should also cover the following:
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(Maximum 750 words excluding appendices)

 **Finance**

1. The report should be prepared in professional format with the following features: (a) Title of the report; (b) from whom to whom; (c) nature of the report; (d) terms of references; (e) executive summary; (f) discussion on findings; (g) conclusion; (h) references. [↑](#footnote-ref-1)
2. The report should be prepared in professional format with the following features: (a) Title of the report; (b) from whom to whom; (c) nature of the report; (d) terms of references; (e) executive summary; (f) discussion on findings; (g) conclusion; (h) references. [↑](#footnote-ref-2)