**Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Leeming Senior High School**

**Accounting and Finance ATAR (Year 12)**

**Unit 3**

**Task 5**

**Marking Key**

**Assessment Type:**

Test

**Total Marks:**

50

**Conditions:**

**Period Allowed for Completion of the Task:**

60 minutes under invigilated conditions.

**Task Weighting**

5.0% of the school mark for this pair of units.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Section One (5 marks)**

For each of the following questions, select the most appropriate response.

1. Capital investment decisions are important for a business because:
2. they involve large sums of money relative to the size of the business.
3. expenditures are usually long-term.
4. they carry a high risk.
5. all of the above.
6. The payback period is the:
7. length of time needed to repay loans used to purchase assets.
8. profit expected to be made from an investment divided by its estimated useful life.
9. frequency with which loan repayments need to be made.
10. length of time for cash flows from an investment to exceed its initial cost.
11. Qualitative factors in capital investment decisions might include:
12. net present value.
13. time value of money.
14. the payback period.
15. none of the above.
16. Asset management includes:

a organising suitable finance for the purchase of non-current assets.

b maintaining adequate levels of capital.

c ensuring creditors are paid on time.

d none of the above.

1. The most likely consequence of having insufficient levels of inventory would be:

a excess cash that could be better utilised elsewhere in the business.

b loss of sales or disruption to production.

c insufficient working capital to effectively meet ongoing debts.

d an increase in wastage, due to obsolete or deteriorating inventory.

**Section Two (45 marks)**

Write your answers in the spaces provided.

**Question 6**

*Big Boys Toys* is evaluating the purchase of three machines capable of performing certain operations that are currently performed manually. Information pertaining to each of the machines is given below:

**Option A**

This machine costs $650,000. It will be fully paid for on the date of purchase. Depreciation will be applied to this non-current asset over its useful life of five years, by the end of which it should have a scrap value of $50,000. It is expected that the purchase of this machine will result in an increase in cash sales revenue of $120,000 for the first two years and $125,000 in the next three years. In addition, the business can expect to reduce cash outflows by saving $40,000 in wages each year.

**Option B**

This machine will cost $840,000 and have a useful life of eight years. A deposit of $700,000 will initially be paid on delivery and a further $140,000 will be paid at the end of Year 1. Depreciation will be applied to this non-current asset over its useful life, by the end of which it should have a scrap value of $20,000. It is expected that the purchase of this machine will result in cash inflows of $400,000 each year and cash outflows of $240,000 each year.

**Option C**

This machine will cost $950,000 and have a useful life of eight years. A deposit of $450,000 will initially be paid on delivery and the remainder will be paid in two equal instalments at the end of Year 1 and Year 2. Depreciation will be applied to this non-current asset over its useful life, by the end of which it should have a scrap value of $140,000. It is expected that the purchase of this machine will result in cash inflows of $440,000 and cash outflows of $240,000 during years 1 through 5, and cash inflows of $460,000 and cash outflows of $280,000 during years 6 through 8.

*Additional Information:*

The company has set an acceptable predetermined payback period of 5 years and the cost of capital is 12%.

**Required:**

**Part A**

Calculate the payback period in years and months for each of the machines. (17 marks)

|  |
| --- |
| **Option A** |
| **Year** | **Net Cash Flows** | **Accumulated Cash Flows** | **Marks** |
| 1 | $120 000 + $40 000 = $160 000 | $160 000 | **½** |
| 2 | $120 000 + $40 000 = $160 000 | $320 000 | **½** |
| 3 | $125 000 + $40 000 = $165 000 | $485 000 | **½** |
| 4 | $125 000 + $40 000 = $165 000 | $650 000 | **½** |
| 5 | $125 000 + $40 000 = $165 000 | $815 000 | **½** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Step 1** | Calculate the cumulative cash flows for each year. | At the end of **Year 4** we have accumulated **$650 000**. | **½** |

|  |  |  |
| --- | --- | --- |
| **Payback Period =** | **4 Years** | **1** |

|  |
| --- |
| **Option B** |

|  |  |  |
| --- | --- | --- |
| **Net Cash Flow =** | **Cash Inflows -** | **Cash Outflows** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Net Cash Flow =** | $400 000 -  | $240 000 | **1** |

|  |  |  |
| --- | --- | --- |
| **Net Cash Flow =** | **$160 000** | **½** |

|  |  |
| --- | --- |
| **Payback Period =** | **Initial Cost of Investment** |
| **Net Cash Flows** |

|  |  |  |
| --- | --- | --- |
| **Payback Period =** | $840 000 | **1** |
| $160 000 |

|  |  |  |
| --- | --- | --- |
| **Payback Period =** | 5.25 | **½** |

|  |  |  |
| --- | --- | --- |
| **Payback Period =** | 0.25 x 12 = 3 | **½** |

|  |  |  |
| --- | --- | --- |
| **Payback Period =** | **5 Years and 3 Months** | **1** |

|  |
| --- |
| **Option C** |
| **Year** | **Net Cash Flows** | **Accumulated Cash Flows** | **Marks** |
| 1 | $440 000 - $240 000 = $200 000 | $200 000 | **½** |
| 2 | $440 000 - $240 000 = $200 000 | $400 000 | **½** |
| 3 | $440 000 - $240 000 = $200 000 | $600 000 | **½** |
| 4 | $440 000 - $240 000 = $200 000 | $800 000 | **½** |
| 5 | $440 000 - $240 000 = $200 000 | $1 000 000 | **½** |
| 6 | $460 000 - $280 000 = $180 000 | $1 180 000 | **½** |
| 7 | $460 000 - $280 000 = $180 000 | $1 360 000 | **½** |
| 8 | $460 000 - $280 000 = $180 000 | $1 540 000 | **½** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Step 1** | Calculate the cumulative cash flows for each year. | At the end of **Year 4** we have accumulated **$800 000** and at the end of **Year 5** we accumulated **$1 000 000**. The initial investment is recovered after **Year 4** but before the completion of **Year 5**. | **1** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Step 2** | Determine the amount still to be recovered after **Year 4**. | $950 000 - $800 000 | = $150 000 | **1** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Step 3** | Calculate the proportion of the amount to be recovered is of the total to be recovered in **Year 5**. | $150 000$200 000 | = 0.75 | **1** |

|  |
| --- |
| This proportion can be expressed in months as follows: |

|  |  |  |
| --- | --- | --- |
| **Payback Period =** | 0.75 x 12 months = 9 | **½** |

|  |  |  |
| --- | --- | --- |
| **Payback Period =** | **4 Years and 9 Months** | **1** |

|  |
| --- |
| **Payback Period** |
| **Option A** | **Option B** | **Option C** |
| **4 Years** | **5 Years and 3 Months** | **4 Years and 9 Months** |
| **4** | **4½** | **8½** |

**Part B**

Identify which investment has a better payback period, and state whether it is a suitable investment. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Identifies the correct investment and states, in detail, if it is a suitable investment | **3** |
| Identifies the correct investment and states, in general detail, if it is a suitable investment | **2** |
| Identifies the correct investment | **1** |
| **Answer could include, but is not limited to, the following points:** |
| * Identifies Option A as the investment with a better payback period (or the option that had the lowest in their calculation).
* It is a suitable investment as it comes under company’s acceptable predetermined payback period of 5 years.
 |
| **Total Marks** | **3** |

**Part C**

*Big Boys Toys* has decided to scrap Option B. Calculate the net present value for each of the other two machines. (14 marks)

|  |
| --- |
| **Option A** |

|  |  |
| --- | --- |
| **Net Cash Flow (Years 1 – 2) =** | $160 000 |

|  |  |
| --- | --- |
| **Net Cash Flow (Years 3 – 4) =** | $165 000 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Net Cash Flow (Year 5) =** | $165 000 +  | $50 000 | **½** |

|  |  |
| --- | --- |
| **Net Cash Flow (Year 5) =** | $215 000 |

|  |  |
| --- | --- |
| **PV =** | **NCF x PVF(i, n)** |

|  |  |
| --- | --- |
| **PV (Years 1 – 2) =** | $160 000 x PVF(12%, 2) |

|  |  |
| --- | --- |
| **PV (Years 1 – 2) =** | $160 000 x 1.6901 |

|  |  |  |
| --- | --- | --- |
| **PV (Years 1 – 2) =** | **$270 416** | **1** |

|  |  |
| --- | --- |
| **PV (Year 3) =** | $165 000 x PVF(12%, 3) |

|  |  |
| --- | --- |
| **PV (Year 3) =** | $165 000 x 0.7118 |

|  |  |  |
| --- | --- | --- |
| **PV (Year 3) =** | **$117 447** | **1** |

|  |  |
| --- | --- |
| **PV (Year 4) =** | $165 000 x PVF(12%, 4) |

|  |  |
| --- | --- |
| **PV (Year 4) =** | $165 000 x 0.6355 |

|  |  |  |
| --- | --- | --- |
| **PV (Year 4) =** | **$104 858** | **1** |

|  |  |
| --- | --- |
| **PV (Year 5) =** | $215 000 x PVF(12%, 5) |

|  |  |
| --- | --- |
| **PV (Year 5) =** | $215 000 x 0.5674 |

|  |  |  |
| --- | --- | --- |
| **PV (Year 5) =** | **$121 991** | **1** |

|  |  |  |  |
| --- | --- | --- | --- |
| **NPV =**  | **PV Net Cash Flows -** | **PV Of The Cost Of The Investment** | **1** |

|  |  |  |
| --- | --- | --- |
| **NPV =**  | ($270 416 + $117 447 + $104 858 + 121 991) - | $650 000 |

|  |  |  |
| --- | --- | --- |
| **NPV =**  | $614 712 - | $650 000 |

|  |  |  |
| --- | --- | --- |
| **NPV =**  | **(-ve) $35 288** | **½** |

|  |
| --- |
| **Option C** |

|  |  |
| --- | --- |
| **Net Cash Flow (Years 1 – 5) =** | $200 000 |

|  |  |
| --- | --- |
| **Net Cash Flow (Years 6 – 7) =** | $180 000 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Net Cash Flow (Year 8) =** | $180 000 + | $140 000 | **½** |

|  |  |
| --- | --- |
| **Net Cash Flow (Year 8) =** | $320 000 |

|  |  |
| --- | --- |
| **PV =** | **NCF x PVF(i, n)** |

|  |  |
| --- | --- |
| **PV (Years 1 – 5) =** | $200 000 x PVF(12%, 5) |

|  |  |
| --- | --- |
| **PV (Years 1 – 5) =** | $200 000 x 3.6048 |

|  |  |  |
| --- | --- | --- |
| **PV (Years 1 – 5) =** | **$720 960** | **1** |

|  |  |
| --- | --- |
| **PV (Year 6) =** | $180 000 x PVF(12%, 6) |

|  |  |
| --- | --- |
| **PV (Year 6) =** | $180 000 x 0.5066 |

|  |  |  |
| --- | --- | --- |
| **PV (Year 6) =** | **$91 188** | **1** |

|  |  |
| --- | --- |
| **PV (Year 7) =** | $180 000 x PVF(12%, 7) |

|  |  |
| --- | --- |
| **PV (Year 7) =** | $180 000 x 0.4523 |

|  |  |  |
| --- | --- | --- |
| **PV (Year 7) =** | **$81 414** | **1** |

|  |  |
| --- | --- |
| **PV (Year 8) =** | $320 000 x PVF(12%, 8) |

|  |  |
| --- | --- |
| **PV (Year 8) =** | $320 000 x 0.4039 |

|  |  |  |
| --- | --- | --- |
| **PV (Year 8) =** | **$129 248** | **1** |

|  |  |
| --- | --- |
| **PV (Cost Of The Investment =** | **NCF x PVF(i, n)** |

|  |  |
| --- | --- |
| **PV (Cost Of The Investment (Year 1) =** | $250 000 x PVF(12%, 1) |

|  |  |
| --- | --- |
| **PV (Cost Of The Investment (Year 1) =** | $250 000 x 0.8929 |

|  |  |  |
| --- | --- | --- |
| **PV (Cost Of The Investment (Year 1) =** | **$223 225** | **1** |

|  |  |
| --- | --- |
| **PV (Cost Of The Investment (Year 2) =** | $250 000 x PVF(12%, 2) |

|  |  |
| --- | --- |
| **PV (Cost Of The Investment (Year 2) =** | $250 000 x 0.7972 |

|  |  |  |
| --- | --- | --- |
| **PV (Cost Of The Investment (Year 2) =** | **$199 300** | **1** |

|  |  |  |
| --- | --- | --- |
| **NPV =**  | **PV Net Cash Flows -** | **PV Of The Cost Of The Investment** |

|  |  |  |  |
| --- | --- | --- | --- |
| **NPV =**  | ($720 960 + 91 188 + 81 414 +$129 248) - | ($450 000 + $223 225 +$199 300) | 1 |

|  |  |  |
| --- | --- | --- |
| **NPV =**  | $1 022 810 - | $872 525 |

|  |  |  |
| --- | --- | --- |
| **NPV =**  | **(+ve) $150 285** | **½** |

|  |
| --- |
| **Net Present Value** |
| **Option A** | **Option C** |
| **(-ve) $35 288** | **(+ve) $150 285** |
| **6** | **8** |

**Question 7**

*Big Boys Toys* has taken your advice on board and will now investigate the *qualitative* factors that may further influence their decision.

Identify and explain three (3) such factors. (6 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Identifies and explains correctly, and in detail, three (3) qualitative factors | **6** |
| Identifies and explains correctly, and in detail, two (2) qualitative factors, and in some detail, one (1) qualitative factor | **5** |
| Identifies and explains correctly, and in detail, two (2) qualitative factors | **4** |
| Identifies and explains correctly, and in detail, one (1) qualitative factor, and in some detail, one (1) qualitative factor | **3** |
| Identifies and explains correctly, and in detail, one (1) qualitative factor | **2** |
| Identifies and explains correctly, and in some detail, one (1) qualitative factor | **1** |
| **Answer could include, but is not limited to, the following points:** |
| * **Employee Morale** – will adopting either Option A or C affect employee morale in a positive or negative way. If it’s in a negative way, the decision might have to be re-thought.
* **Affect on Other Parts of the Business** - will adopting either Option A or C affect other parts of the business in a positive or negative way. If it’s in a negative way, the decision might have to be re-thought.
* **Environmental Impact** - will adopting either Option A or C impact the environment in a positive or negative way. If it’s in a negative way, the decision might have to be re-thought.
* **Effect on Future Business Opportunities**
* **Effect on the Business’s Image**
* **Changes to the Quality of Product**
 |
| **Total Marks** | **6** |

**Question 8**

*Big Boys Toys* will need to investigate how they will finance their business expansion.

**Part A**

Briefly describe two (2) methods of business finance available to them. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Describes two (2) methods of business finance in detail | **2** |
| Describes one (1) method of business finance in detail | **1** |
| **Answer could include, but is not limited to, the following points:** |
| * **Equity Financing** – money contributed by the owner/s. An example of this is through a share issue.
* **Debt Financing** – borrowings or money provided for a limited term by somebody else. An example of this is a long-term loan from a bank.
 |
| **Total Marks** | **2** |

**Part B**

What is the meaning and significance of ‘gearing’ in relation to business finance? (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Discusses the meaning and significance of ‘gearing’ in relation to business finance in detail | **3** |
| Discusses the meaning and significance of ‘gearing’ in relation to business finance in some detail | **2** |
| Discusses the meaning and significance of ‘gearing’ in relation to business finance in limited detail | **1** |
| **Answer could include, but is not limited to, the following points:** |
| * It is the relationship between the two forms of financing.
* A firm that has a relatively high proportion of equity in its financial structure is said to be lowly geared.
* One that has a relatively high proportion of borrowings is said to be highly geared and at a higher ‘financial risk’.
 |
| **Total Marks** | **3** |