Source A for Question 1

RP plc uses investment appraisal techniques in determining whether or not to undertake specific projects.

1 Read Source A in the insert.

(a) Explain why non-financial factors are disregarded by traditional investment appraisal techniques.

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..... [2]

(b) Suggest **two** non-financial factors which are disregarded by traditional investment appraisal techniques.

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2 .....
[2]

Additional information

The directors of RP plc are considering paying $100 000 to acquire a licence. This would give the company the right to manufacture and sell a product for the next four years.

The following budgeted information is available.

Year	Units produced and sold	Selling price per unit $	Variable costs per unit $
1	6 000	19	11
2	10 000	22	11
3	8 000	18	13
4	4 000	15	14

Fixed costs excluding amortisation (depreciation) are expected to amount to $19 000 per annum.

(c) Calculate the net cash flow expected to arise in **each** of the years 1 to 4.

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..... [4]

Additional information

Discount factors are as follows:

Year	10%	15%
1	0.909	0.870
2	0.826	0.756
3	0.751	0.658
4	0.683	0.572

(d) Calculate, to **two** decimal places, the internal rate of return (IRR) of the purchase of the licence.

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(e) Discuss whether it would be better on financial grounds for the company to stop production at the end of year 3. Assume that the fixed costs and the cost of the licence would be unchanged. Calculations are **not** required.

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..... [3]

Additional information

The IRR arising from the purchase of the licence was higher than the company's cost of capital, and so it was decided to go ahead with the purchase.

One of the directors thought that the decision was hasty and that other investment appraisal techniques should also be used.

(f) Advise the directors whether or not other investment appraisal techniques should also be used. Justify your answer. Calculations are **not** required.

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..... [6]

[Total: 25]

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>1(a)</td><td>Explain why non-financial factors are disregarded by traditional investment appraisal techniques.

Investment appraisal techniques are based on monetary analysis (1) and non-financial factors cannot be expressed in monetary terms (1).

Accept other valid responses.</td><td>2</td></tr>
<tr><td>1(b)</td><td>Suggest <u>two</u> non-financial factors which are disregarded by traditional investment appraisal techniques.

Any two reasonable answers for (1) mark each, e.g. improvement in staff morale, improvement in customer satisfaction, effect on the environment, competitive advantage, effect of job losses to social welfare.

Accept other valid responses.</td><td>2</td></tr>
<tr><td>1(c)</td><td>Calculate the net cash flow expected to arise in <u>each</u> of the years 1 to 4.

<table>
<tr><th>Year</th><th>Sales
$</th><th>Variable costs
$</th><th>Fixed costs
$</th><th>Net cash flow
$</th><th></th></tr>
<tr><td>1</td><td>114 000</td><td>(66 000)</td><td>(19 000)</td><td>29 000</td><td>(1)</td></tr>
<tr><td>2</td><td>220 000</td><td>(110 000)</td><td>(19 000)</td><td>91 000</td><td>(1)</td></tr>
<tr><td>3</td><td>144 000</td><td>(104 000)</td><td>(19 000)</td><td>21 000</td><td>(1)</td></tr>
<tr><td>4</td><td>60 000</td><td>(56 000)</td><td>(19 000)</td><td>(15 000)</td><td>(1)</td></tr>
</table></td><td>4</td></tr>
<tr><td>1(d)</td><td>Calculate, to <u>two</u> decimal places, the internal rate of return (IRR) of the purchase of the licence.

<table>
<tr><th>Year</th><th>Net cash flow
$</th><th></th><th>Present value at 10%
$</th><th></th><th>Present value at 15%
$</th><th></th></tr>
<tr><td>0</td><td>(100 000)</td><td></td><td>(100 000)</td><td></td><td>(100 000)</td><td>(1)</td></tr>
<tr><td>1</td><td>29 000</td><td>0.909</td><td>26 361</td><td>0.870</td><td>25 230</td><td>(1)OF</td></tr>
<tr><td>2</td><td>91 000</td><td>0.826</td><td>75 166</td><td>0.756</td><td>68 796</td><td>(1)OF</td></tr>
<tr><td>3</td><td>21 000</td><td>0.751</td><td>15 771</td><td>0.658</td><td>13 818</td><td>(1)OF</td></tr>
<tr><td>4</td><td>(15 000)</td><td>0.683</td><td>(10 245)</td><td>0.572</td><td>(8 580)</td><td>(1)OF</td></tr>
<tr><td></td><td colspan="2">Net present value</td><td>7 053</td><td></td><td>(736)</td><td>(1)OF</td></tr>
</table>
IRR = 10% + [(15%-10%) × 7053/(7053+736)] (1)OF = 14.53% (1)OF</td><td>8</td></tr>
</table>

Question	Answer	Marks
1(e)	**Discuss whether it would be better on financial grounds for the company to stop production at the end of year 3. Assume that the fixed costs and the cost of the licence would be unchanged. Calculations are <u>not</u> required.** Even though the net cash flow in year 4 is negative/results for year 4 show a loss instead of a profit **(1)** production creates a positive contribution **(1)** and so should continue **(1).** **Note** – mark on an own figure basis **Accept other valid responses.**	**3**
1(f)	**Advise the directors whether or not other investment appraisal techniques should also be used. Justify your answer. Calculations are <u>not</u> required.** **General comments (max 3)** Using additional techniques will be more time consuming **(1)** and the validity of the outcomes will still depend on the accuracy of the estimated values **(1).** But they may highlight other aspects of the decision, particularly with regard to the level of risk **(1).** IRR is based on NPV **(1)** which is widely accepted as the most suitable method of investment appraisal. **(1)** **Payback (max 1)** It is simple to calculate and understand **(1).** It recognises that the sooner cash is received the less risk there is in an investment **(1).** But it ignores the time value of money **(1).** It ignores cash flows arising after the payback period **(1).** **Accounting rate of return (max 1)** It looks at the earnings over the whole life of an investment in the same way as IRR and NPV **(1).** It is based on profits which may be more subjective/affected by accounting policies **(1).** Like payback it ignores the time value of money **(1).** **Decision supported by a comment (1)** **Accept other valid responses**	**6**