



Rewarding Learning

ADVANCED
General Certificate of Education
January 2011

GCE Applied Business

Assessment Unit A2 7

assessing

Finance

[A6B11]

THURSDAY 20 JANUARY, AFTERNOON

MARK SCHEME

1 (a) (i) breakeven point (in terms of the number of vehicles using the motorway network):

- sales price (toll charge) per vehicle = £1
- variable cost per vehicle = £0.60
- contribution per vehicle = £1.00 – £0.60 = £0.40
- fixed costs = £42,000
- breakeven point (no. of vehicles) = £42,000 / £0.40 = 105,000 vehicles

[2]

Marking: [2] for knowledge/understanding

(ii) breakeven point (in terms of the revenue received from toll charges):

- breakeven point (no. of vehicles) = 105,000
- toll charge per vehicle = £1.00
- total revenues (toll charges) at breakeven point = 105,000 × £1.00 = £105,000

[2]

Marking: [2] for knowledge/understanding (O.F.R. Applies)

(iii) total profit that could accrue to the government if the above proposals proceed as planned:

- total sales revenues (total toll charges × no. of vehicles) = 160,000 × £1.00 = £160,000
- total costs = Fixed costs + variable costs = £42,000 + (160,000 × £0.60) = £138,000
- thus total profit = revenues – costs = £160,000 – £138,000 = £22,000

[3]

Marking: [3] for knowledge/understanding

(b) Graph should be drawn as per suggested solution, showing clear reference to:

(i) Total Revenues (£160,000); [1]

(ii) Total Costs (£138,000); [1]

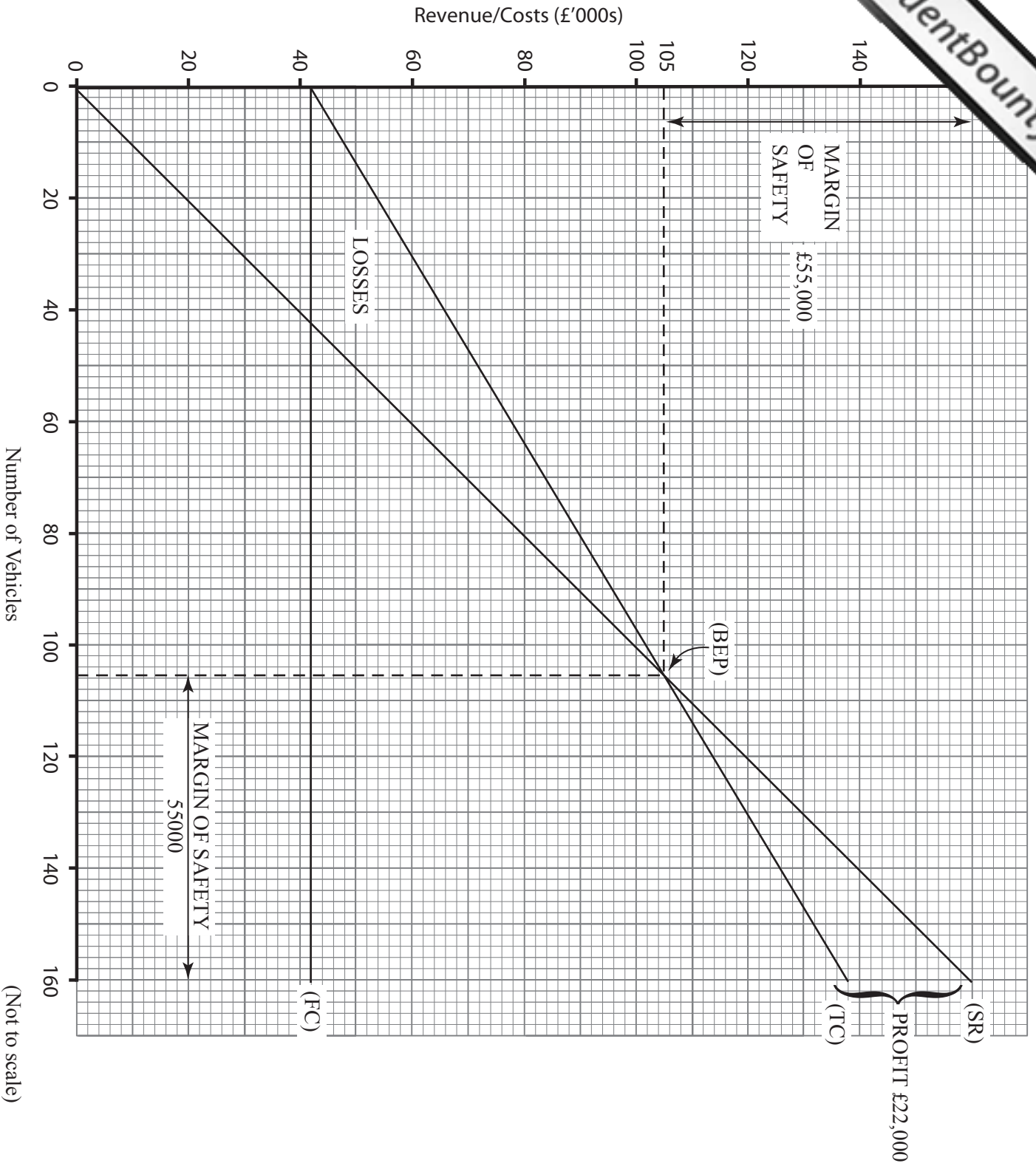
(iii) Breakeven Point (in terms of number of vehicles and toll charges levied) (105,000; £105,000); [2]

(iv) Total Profit (£160,000 – £138,000 = £22,000); [1]

(v) Margin of Safety in terms of number of vehicles and toll charges levied (55,000; £55,000); [2]

[7]

Breakeven Graph – Motorway



(Not to scale)

(c) (i) Revised breakeven point (in terms of the number of vehicles using the motorway network):

- sales price (toll charge) per vehicle = £2
- variable cost per vehicle = £0.60
- contribution per vehicle = £2.00 – £0.60 = £1.40
- fixed costs = £42,000
- breakeven point (no. of vehicles) = £42,000 / £1.40 = 30,000 vehicles

[2]

Marking: [2] for knowledge/understanding

(ii) breakeven point (in terms of the revenue received from toll charges):

- breakeven point (no. of vehicles) = 30,000
- toll charge per vehicle = £2.00
- total revenues (toll charges) at breakeven point = 30,000 × £2.00 = £60,000

[2]

Marking: [2] for knowledge/understanding (O.F.R. Applies)

(d) Evaluate the ways in which breakeven analysis would facilitate the efficient management of the motorway network.

- **Cost behaviour:** this can be more closely monitored and controlled as such analysis requires management to classify costs into fixed (£42,000) and variable (£96,000) components. This will be of benefit to the government in managing the motorway network efficiently;
- **Pricing:** once cost behaviour can be established, sales prices (tolls) can be set more accurately (£1.00 in this case), thus forming a pricing structure which can be implemented. This will be of benefit to the government in respect of the efficient management of the motorway network;
- **Profitability:** this can be determined once the cost and revenues calculations required for breakeven analysis are formulated, and enable the government to control costs and revenues, and to manage the network efficiently. In this case, a profit/surplus of £22,000 can be predicted using the appropriate information;
- **Consumer behaviour:** the government can monitor the use of the motorway network on a daily basis, and likely demand for the road system. Thus if the estimated number of vehicles remains constant, this could prove to be a useful means by which the government can raise tax revenues. If road users do not wish to pay the toll charges, then alternative modes/methods of transport are likely to be used.
- **All figures are estimates and not necessarily accurate:** possible that costs/revenue data is underestimated.

- Breakeven Analysis provides a quantitative analysis only. There may be social/qualitative issues to be addressed.

Final Judgement: it is possible to conclude that breakeven analysis is likely to be of use to the government in the context of this proposal.

	AO1 Knowledge and understanding	AO2 Application	AO3 Analysis	AO4 Evaluation
Level 3	<p>[3] Candidate demonstrates a good understanding of the usefulness of breakeven analysis relative to the business proposal. Candidate makes good use of specialist vocabulary when it is appropriate.</p>	<p>[3] Candidate applies knowledge effectively.</p>	<p>[3] Candidate thoroughly analyses the usefulness of breakeven analysis relative to the business proposal.</p>	<p>[3] Candidate gives a full evaluation of the usefulness of breakeven analysis relative to the business proposal, and comes to a final judgement. Candidate demonstrates good spelling, punctuation and grammar. The meaning of the text is clear. The candidate has consistently used a form and style of writing appropriate to the purpose of the question. Answer is organised in a clear and coherent manner.</p>

<p>Level 2</p>	<p>[2] Candidate demonstrates adequate understanding of the usefulness of breakeven analysis relative to the business proposal. Candidate makes adequate use of specialist vocabulary when it is appropriate.</p>	<p>[2] Candidate attempts to apply reasonable knowledge.</p>	<p>[2] Candidate shows some attempt to analyse the usefulness of breakeven analysis relative to the business proposal.</p>	<p>[2] Candidate shows a satisfactory evaluation of the usefulness of breakeven analysis relative to the business proposal, and comes to a final judgement. Candidate demonstrates satisfactory spelling, punctuation and grammar. The meaning of the text is clear most of the time. The candidate demonstrates a satisfactory level of writing, form and style appropriate to the purpose of the question. Answer is organised in a satisfactory manner.</p>
<p>Level 1</p>	<p>[1] Candidate demonstrates some understanding of the usefulness of breakeven analysis relative to the business proposal. Candidate makes some use of specialist vocabulary when it is appropriate.</p>	<p>[1] Candidate attempts to apply some knowledge.</p>	<p>[1] Candidate shows little attempt to analyse the usefulness of breakeven analysis relative to the business proposal.</p>	<p>[1] Candidate attempts some evaluation of the usefulness of breakeven analysis relative to the business proposal. Candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the purpose of the question. The organisation of the answer is limited.</p>

Level 0	<p>[0] Candidate demonstrates no understanding of the usefulness of breakeven analysis relative to the business proposal. Candidate makes no use of specialist vocabulary when it is appropriate.</p>	<p>[0] Candidate does not attempt to apply knowledge.</p>	<p>[0] Candidate shows no attempt to analyse the usefulness of breakeven analysis relative to the business proposal.</p>	<p>[0] Candidate attempt to evaluate the usefulness of breakeven analysis relative to the business proposal.</p>
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[12]

AVAILABLE MARKS
30

2 (Note: Candidates may present their calculations/workings rounded, to the nearest “£” throughout subsections (a) and (b) as appropriate).

(a) The payback period for this project is:

	Annual Net Cashflow (£)	Cumulative Net Cashflow (£)
2011	– 10,000,000	– 10,000,000
2012	– 8,000,000	– 18,000,000
2013	+ 9,600,000	– 8,400,000
2014	+ 12,600,000	+ 4,200,000

Payback period is: **3 years and 8 months (or 3²/₃ years or August 2014)** (Note: OFR applies)

	AO1 Knowledge and understanding	AO2 Application
Level 2	[3]–[4] Candidate demonstrates a very good understanding of the payback method and supporting calculations.	[3]–[4] Candidate applies knowledge effectively in context of stimulus material.
Level 1	[1]–[2] Candidate demonstrates a good understanding of the payback method and supporting calculations.	[1]–[2] Candidate applies knowledge adequately in context of stimulus material.
Level 0	[0] Candidate demonstrates no understanding of the payback method and supporting calculations.	[0] Candidate does not attempt to apply knowledge to stimulus material.

[8]

(b) Using the appropriate information, calculate the net present value (NPV) of this project:

Year	Annual Net Cashflow (£)	Discount Factor (10%)	Present Value (£)
2011	- 10,000,000	1.0000	- 10,000,000
2012	- 8,000,000	0.9091	- 7,272,800
2013	+ 9,600,000	0.8264	+ 7,933,440
2014	+ 12,600,000	0.7513	+ 9,466,380
Net Present Value			+ 127,020

(Note: OFR applies)

	AO1 Knowledge and understanding	AO2 Application
Level 2	[3]–[4] Candidate demonstrates a very good understanding of the NPV method and supporting calculations.	[3]–[4] Candidate applies knowledge effectively in context of stimulus material.
Level 1	[1]–[2] Candidate demonstrates a good understanding of the NPV method and supporting calculations.	[1]–[2] Candidate applies knowledge adequately in context of stimulus material.
Level 0	[0] Candidate demonstrates no understanding of the NPV method and supporting calculations.	[0] Candidate does not attempt to apply knowledge to stimulus material.

[8]

- (c) The project should be accepted as the calculations indicate that the payback period is 3 yrs and 8 mths (within the 4 year project lifespan), or the NPV is positive (£127,020).

	AO1 Knowledge and understanding	AO2 Application
Level 1	[1] Candidate demonstrates a good understanding of investment appraisal techniques.	[1] Candidate applied knowledge effectively in context of stimulus material.
Level 0	[0] Candidate demonstrates no understanding of investment appraisal techniques.	[0] Candidate does not attempt to apply knowledge to stimulus material.

[2]

Marking: [1] for knowledge/understanding; [1] for application ($[1] \times 2$) (O.F.R. Applies)

- (d) Evaluate the usefulness of Net Present Value (NPV) as a method of investment appraisal, to an organisation such as The National Trust.

Benefits:

- Considers the time value of money, which would be useful in the context of the cashflow in/out in relation to the project under consideration;
- Adjusts for risk via the use of a discount factor—the use of a discount factor at 10% generates a positive NPV—a higher discount factor would decrease the NPV incorporating a greater degree of risk for the project. This factor is determined by the management team;
- NPV method utilizes the concept of cashflows, yielding maximum value for the organisation, in this case the National Trust, thus the project viability can be assessed in terms of cashflows;
- This method of project appraisal can enable the management team to accurately forecast the cashflows related to the project and identify some factors which might impact the project lifespan, e.g. increasing levels of donations, increases required in admission prices etc.

Drawbacks:

- Difficult to understand concept of cashflows compared to profitability – they are two different ideas and easily confused;
- Difficult to decide the most appropriate discount rate to be applied to the project – setting this too high might lead to rejection of a viable project;
- Difficult to accurately estimate project cashflows, which might impact viability of project;
- The acceptance of the project might be determined with reference to other non-quantitative criteria.

Final judgement: NPV is a valid method of appraising capital projects.

	AO1 Knowledge and understanding	AO2 Application	AO3 Analysis	AO4 Evaluation
Level 3	<p>[3] Candidate demonstrates a good understanding of the usefulness of NPV as an investment appraisal method, relative to the National Trust. Candidate makes good use of specialist vocabulary when it is appropriate.</p>	<p>[3] Candidate applies knowledge effectively.</p>	<p>[3] Candidate thoroughly analyses the usefulness of NPV as an investment appraisal method, relative to the National Trust.</p>	<p>[3] Candidate gives a full evaluation of the usefulness of NPV as an investment appraisal method, relative to the National Trust, and comes to a final judgement. Candidate demonstrates good spelling, punctuation and grammar. The meaning of the text is clear. The candidate has consistently used a form and style of writing appropriate to the purpose of the question. Answer is organised in a clear and coherent manner.</p>

<p>Level 2</p>	<p>[2] Candidate demonstrates adequate understanding of the usefulness of NPV as an investment appraisal method, relative to the National Trust. Candidate makes adequate use of specialist vocabulary when it is appropriate.</p>	<p>[2] Candidate attempts to apply reasonable knowledge.</p>	<p>[2] Candidate shows some attempt to analyse the usefulness of NPV as an investment appraisal method, relative to the National Trust.</p>	<p>[2] Candidate gives a satisfactory evaluation of the usefulness of NPV as an investment appraisal method, relative to the National Trust, and comes to a final judgement. Candidate demonstrates satisfactory spelling, punctuation and grammar. The meaning of the text is clear most of the time. The candidate demonstrates a satisfactory level of writing, form and style appropriate to the purpose of the question. Answer is organised in a satisfactory manner.</p>
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Level 1	<p>[1] Candidate demonstrates some understanding of the usefulness of NPV as an investment appraisal method, relative to the National Trust. Candidate makes some use of specialist vocabulary when it is appropriate.</p>	<p>[1] Candidate attempts to apply some knowledge.</p>	<p>[1] Candidate shows little attempt to analyse the usefulness of NPV as an investment appraisal method, relative to the National Trust.</p>	<p>[1] Candidate shows some evaluation of the usefulness of NPV as an investment appraisal method, relative to the National Trust. Candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the purpose of the question. The organisation of the answer is limited.</p>
Level 0	<p>[0] Candidate demonstrates no understanding of the usefulness of NPV as an investment appraisal method, relative to the National Trust. Candidate makes no use of specialist vocabulary when it is appropriate.</p>	<p>[0] Candidate does not attempt to apply knowledge.</p>	<p>[0] Candidate shows no attempt to analyse the usefulness of NPV as an investment appraisal method, relative to the National Trust.</p>	<p>[0] Candidate makes no attempt to evaluate the usefulness of NPV as an investment appraisal method, relative to the National Trust.</p>

[12]

AVAILABLE MARKS

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3 Funding Sources for business:

(a) (i) The Prince’s Trust:

- The Prince’s Trust runs programmes to help young people who work less than 16 hours per week;
- Financial assistance in the form of grants available for:
 - Attendance at business courses and help to seek employment – available under “Development Awards”; and
 - Starting community projects – available under Community Cash Awards.
- The Business Programme is available to individuals aged 18–30 who are unemployed;
- Courses available to individuals wanting to set up in Funding for business.

(ii) Venture Capitalist:

- An organisation which provides funding for start-up businesses and/or businesses subject to management/employee buyout e.g.3i;
- Venture capitalist can provide funding and/or business advice of a general/specialist nature;
- Venture capitalist may require representation on board/management team of a business, thus having a role/input in the decision making process;
- Venture capitalist may require that a proportion of profits are received representing a return on investment;
- Venture capitalist may be the largest risk taker in the venture, and may impose specific criteria in relation to key aspects of the business.

	AO1 Knowledge and understanding	AO2 Application
Level 3	[4] Candidate demonstrates a good understanding of the Prince’s Trust and Venture Capitalist as sources of funding in business. Candidate makes good use of specialist vocabulary when it is appropriate.	[4] Candidate applies knowledge effectively.
Level 2	[3] Candidate demonstrates adequate understanding of the Prince’s Trust and Venture Capitalist as sources of funding in business. Candidate makes adequate use of specialist vocabulary when it is appropriate.	[3] Candidate attempts to apply reasonable knowledge.

Level 1	<p>[1]–[2] Candidate demonstrates some understanding of the Prince’s Trust and Venture Capitalist as sources of funding in business. Candidate makes some use of specialist vocabulary when it is appropriate.</p>	<p>[1]–[2] Candidate attempts to apply some knowledge.</p>
Level 0	<p>[0] Candidate demonstrates no understanding of the Prince’s Trust and Venture Capitalist as sources of funding in business. Candidate makes no use of specialist vocabulary when it is appropriate.</p>	<p>[0] Candidate does not attempt to apply knowledge.</p>

[8]

(b) Advantages/disadvantages of share capital as a method of raising funds.

Advantages:

- Share capital can be issued as ordinary shares or preference shares. Preference shares will attract a fixed rate of dividend and generally speaking, at a lower rate than ordinary dividend, so this might represent a cheaper source of finance to the company;
- Ordinary shares attract a variable rate of dividend and therefore gives management the flexibility to decide whether or not to pay a dividend and/or the rate at which to pay the dividend, which in recessionary times, might be a useful method of conserving funds;
- Share capital can mean that control of the company’s affairs remains within the company thus reducing the financial risk of the company;
- Share capital can mean that the company does not face any financial restrictions in relation to raising debt capital at a future date, since the debt can be secured;
- Share capital can mean that the company can acquire key fixed assets outright, for example, non-current assets or enable the company to proceed with a takeover.

Disadvantages:

- Share capital might be slightly more expensive than debt capital, as it does not attract interest rate relief relative to corporation tax payable;
- Investors might place more emphasis on the payment of a dividend, and thus if the company declines a dividend payment, the share price/value of the company may fall;
- Shareholders expectations might need to be carefully managed in order to minimise the financial risk of the company;

- Issuing shares is an expensive exercise—placing/making an offer and underwriting is expensive with no guarantee of success that all shares will be subscribed to.

Final judgement: It is possible to conclude that share capital as a source of funding is only appropriate in certain circumstances, depending on the purpose of which the funding is required.

	AO1 Knowledge and understanding	AO2 Application	AO3 Analysis	AO4 Evaluation
Level 3	<p>[3] Candidate demonstrates a good understanding of share capital as a source of funding in business. Candidate makes good use of specialist vocabulary when it is appropriate.</p>	<p>[3] Candidate applies knowledge effectively.</p>	<p>[3] Candidate thoroughly analyses share capital as a source of funding in business.</p>	<p>[3] Candidate gives a full evaluation of share capital as a source of funding in business, and comes to a final judgement. Candidate demonstrates good spelling, punctuation and grammar. The meaning of the text is clear. The candidate has consistently used a form and style of writing appropriate to the purpose of the question. Answer is organised in a clear and coherent manner.</p>

<p>Level 2</p>	<p>[2] Candidate demonstrates adequate understanding of share capital as a source of funding in business. Candidate makes adequate use of specialist vocabulary when it is appropriate.</p>	<p>[2] Candidate attempts to apply reasonable knowledge.</p>	<p>[2] Candidate shows some attempt to analyse share capital as a source of funding in business.</p>	<p>[2] Candidate gives a satisfactory evaluation of share capital as a source of funding in business, and comes to a final judgement. Candidate demonstrates satisfactory spelling, punctuation and grammar. The meaning of the text is clear most of the time. The candidate demonstrates a satisfactory level of writing, form and style appropriate to the purpose of the question. Answer is organised in a satisfactory manner.</p>
<p>Level 1</p>	<p>[1] Candidate demonstrates some understanding of share capital as a source of funding in business. Candidate makes some use of specialist vocabulary when it is appropriate.</p>	<p>[1] Candidate attempts to apply some knowledge.</p>	<p>[1] Candidate shows little attempt to analyse share capital as a source of funding in business.</p>	<p>[1] Candidate attempts some evaluation of share capital as a source of funding in business. Candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the purpose of the question. The organisation of the answer is limited.</p>

Level 0	<p>[0] Candidate demonstrates no understanding of share capital as a source of funding in business. Candidate makes no use of specialist vocabulary when it is appropriate.</p>	<p>[0] Candidate does not attempt to apply knowledge.</p>	<p>[0] Candidate shows no attempt to analyse share capital as a source of funding in business.</p>	<p>[0] Candidate does not attempt to evaluate share capital as a source of funding in business.</p>
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	AVAILABLE MARKS
[12]	20
Total	80