



Singapore CA Qualification (Foundation) Examination

18 June 2018

Financial Management

INSTRUCTIONS TO CANDIDATES:

- 1. The time allowed for this examination paper is **3 hours 15 minutes**, including 15 minutes of reading time. Only annotations are allowed on the question paper during the reading time.
- 2. This examination paper has **FOUR (4)** questions and comprises **TWENTY (20)** pages (including this instruction sheet and appendices A and B). Each question may have **MULTIPLE** parts and **ALL** questions are examinable.
- 3. Only calculators that comply with the SAC's regulations may be used during the examination. However, computers, mobile phones, tablets, and other electronic devices **MUST NOT** be used during the examination.
- 4. The number of marks allocated is shown at the end of each question.
- 5. Write legibly in black/blue ink only.
- 6. All answers must be written in the answer booklets provided.
- 7. Begin your answer to each question in a separate answer booklet.
- 8. This question paper **MUST NOT** be removed from the examination room.
- 9. This examination paper is the property of the Singapore Accountancy Commission.

MODULE-SPECIFIC INSTRUCTIONS:

- 10. Assume that all dollar amounts are in Singapore dollar (S\$) unless otherwise stated.
- 11. This is a restricted open book examination. This means that you are allowed to only bring the following materials into the examination hall:
 - One A4-sized double-sided cheat sheet.





Question 1 – (a), (b), (c), and (d)

Today is 30 June 20x5. Jurong Shipping Services Pte Limited (JSS) is a contractor specialising in major ship refurbishments based in Singapore, and is looking to expand internationally. JSS is considering the purchase of Kaga Marine (Kaga), an unlisted Japanese business that provides similar services in Japan.

Additional information

All figures in relation to Kaga are quoted in Japanese Yen (¥).

Kaga's statement of financial position extracts as at 30 June 20x5:

	(¥ millions)	(¥ millions)
Non-current assets		2,500
Net current assets		1,060
		3,560
Ordinary shares	100	
Reserves	2,020	
Total equity		2,120
Long term liabilities		1,440
		3,560

Kaga's Income statement extracts for the years ending 30 June:

(¥ millions)	20x1	20x2	20x3	20x4	20x5
Sales	1,600	1,850	2,200	2,700	3,000
Net profit	350	400	435	470	526
Dividends (paid on the last day of the year to which they relate)	160	170	180	200	220

- The net profit in 20x5 includes the sale of some waterfront property that has not been used for many years for an accounting profit of ¥40 million. As this was a one-off transaction, dividends were not increased to reflect this sale. Remaining property is included in the statement of financial position at ¥1,450 million. This remaining property has recently been professionally assessed and is estimated to have a current market value of ¥2,300 million.
- Historical growth in dividends is expected to continue into the future.
- The industry average Price Earnings ratio for listed ship refurbishment companies is 10. JSS feels a discount of 30% to this is appropriate to reflect the fact that Kaga is unlisted.
- Assuming the acquisition goes ahead, payment is expected to be made in full within three months of 30 June 20x5.
- JSS feels a cost of equity of 15% is appropriate to apply to its investment in Kaga.
- Number of shares: 1 million ordinary shares issued for Kaga.

Question 1 required:

(a) Calculate the estimated Japanese Yen (¥) valuations for one ordinary share in Kaga Marine as at 30 June 20x5, stating the key assumptions you make, using the following methods:

(i)	Revised (revalued) net assets;	(4 marks)
(ii)	Price/Earnings (P/E); and	(4 marks)
(iii)	Dividend discount model.	(4 marks)

(b) Outline ONE method that could be used to hedge against the foreign exchange (transaction) risk associated with paying for Kaga Marine in Japanese Yen (¥).
 (2 marks)

Jurong Shipping Services Pte Limited is concerned about some draft legislation in Japan suggesting that foreign investors may not be permitted to remit dividends for a time after acquiring a Japanese business.

(c) Assuming the first year's dividend (i.e., 30 June 20x6) is withheld until 30 June 20x7 and then remitted in full, calculate (to the nearest ¥1 million) the impact on the valuation of the business using the dividend discount model. (5 marks)

Jurong Shipping Services Pte Limited feels that the historical dividend growth rate may only continue for three years after acquisition, and feels it may settle down to be constant dividends after that point.

(d) Identify the impact on the dividend discount model valuation you calculated in (a)
 (iii) above of assuming no growth in dividends after three years. You should round each year's dividend to the nearest ¥1 million.

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Present your answers using the following format:20X6Name of Item 1 = (Workings) = ¥ Answer
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20X7

Name of Item 1 = (Workings & Workings) = **¥ Answer**

Total NPV = ¥ Answer

(6 marks) (Total: 25 marks)

Question 2 - (a), (b), and (c)

Meet Virtuality Pte Limited (MVPL) is a start-up technology business in Singapore. It is owner-managed by the founding member – Ryan Ong, a young technology expert. Its main asset is a patent it owns for augmented reality glasses that allow remote participants to meet virtually. Each person sits in an otherwise empty meeting room, and other remote meeting members are superimposed onto the other empty chairs.

Despite lots of interest in his product, Ryan is struggling to realise the manufacture and sale of the augmented reality glasses due to a lack of funding. Banks will not lend any more to MVPL, and he is not personally wealthy. He thinks his only choice is to sell an equity stake in the company. He is struggling to value MVPL to work out how much of a stake to offer for the \$74 million the company needs to start manufacturing the augmented reality glasses. He would like to calculate the Net Present Value (NPV) of the investment in manufacturing equipment, but does not know MVPL's weighted average cost of capital (WACC).

MVPL has an existing bank loan with an annual interest rate of 10%.

ABC Limited is a listed company similar to MVPL. It is similar in terms of MVPL's current operations and financing. ABC has a Beta factor of 3.1, and a gearing ratio of 25% measured as debt / (debt + equity).

The risk-free rate is 4% and the market risk premium is 5%. The Singapore corporate tax rate is 17%.

Question 2 required:

- (a) Estimate the current Weighted Average Cost of Capital (WACC) of ABC Limited.(5 marks)
- (b) Based on the calculation in (a) above, comment on whether it is appropriate to use this Weighted Average Cost of Capital (WACC) for investment appraisal purposes concerning Meet Virtuality Pte Limited, stating your assumptions as required. (6 marks)

Assume that Meet Virtuality Pte Limited has sufficient cash reserves and does not need a new equity investor to undertake the manufacturing project. The following cash flows are relevant to assess the manufacturing project:

- Time horizon to be considered: 4 years;
- Initial investment in non-current assets: \$60m, on the first day of a tax year;
- Initial investment in working capital: \$14m;
- Sales per year: \$30m in the first year, rising by 50% per year;
- Operating profit margin: 50%;
- Corporate tax rate: 17%, payable in the same year to which the cash flows relate;
- Working capital requirement;

Т0	T1	T2	Т3	T4
14	21	31.5	47.25	0

- A return on investment of 15%; and
- Tax allowable depreciation: 100% allowable in the first year on non-current assets.

(c) Calculate the net present value (NPV) of the proposed manufacturing project.

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Present your answers using the following format:

T0

Name of Item 1 = (Workings) = S$ Answer

Name of Item 2 = (Workings & Workings) = S$ Answer

Subtotal = S$ Answer

T1

Name of Item 1 = (Workings & Workings) = S$ Answer

Name of Item 2 = Workings = S$ Answer

Subtotal = S$ Answer

Total NPV = S$ Answer
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(14 marks) (Total: 25 marks)

Question 3 - (a), (b), and (c)

All Shoe Orthotics (ASO) is a start-up business (sole proprietorship). It has been running for two years and has grown successfully. It makes e-enabled orthotic insoles that monitor foot pressure and movement throughout the day. The insoles then provide feedback via a smartphone application to a qualified physician to assess stance and walking style issues in patients.

Sarah Kaur, the owner manager, is confused. Despite high growth, she is struggling to pay her bills. She has put all her savings into the business, and cannot get a bank loan as the business is new. She has received a letter from the bank manager asking to meet and discuss her overdraft.

Information relating to ASO

Statement of profit or loss summary:

	20x7 \$'000	20x8 \$'000
Sales	300	800
Cost of sales	(210)	(560)
Gross profit	90	240
Other costs	(75)	(120)
Net profit	15	120

Statement of financial position summary:

	20x7 \$'000	20x8 \$'000
Non-current assets	117	220
Current assets		
Inventory	20	50
Accounts receivable	90	240
Cash at bank	25	-
	135	290
Total assets	252	510
Current liabilities		
Accounts payable	12	40
Overdraft (limit \$125,000)	-	110
	12	150
Net current assets	123	140
Net assets	240	360
Equity		
Share capital	225	225
Reserves	15	135
	240	360

Additional information

- 1. All sales are credit sales.
- 2. All inventory is purchased on credit.

Question 3 required:

- (a) Calculate the length of the cash conversion cycle for 20x7 and 20x8, and comment on the change in each component and how the cash conversion cycle has changed from 20x7 to 20x8. Use year-end values in your calculations where appropriate, and assume 365 days in a year. (14 marks)
- (b) Explain why All Shoe Orthotics is struggling for cash when it is a profitable sole proprietorship and quantify the change in its cash position. (5 marks)
- (c) Propose THREE possible ways in which All Shoe Orthotics could better manage its cash flow difficulties.
 (6 marks)
 (Total: 25 marks)

Question 4 – (a) through (e)

QwikShok Pte Limited (QSPL) manufactures high-speed charging points for electronic cars. It has a growing global reputation, and as demand increases for electronic cars, several countries are looking to invest significantly in car-charging infrastructure.

QSPL is a family-run business. In order to fund its ambitious expansion plans, QSPL is aiming to list on the Singapore Exchange (SGX). The Board is meeting to discuss how to formalise its approach to risk management to prepare for a listing on the SGX. Currently, risk management is informally considered as part of the annual budgeting process. This informal process focusses on strategic risks, on the basis that '... operational problems will always occur – they just need to be dealt with as problems arise'. For example, a recent incident occurred where a customer received a non-fatal electric shock whilst using QSPL equipment in wet weather.

Question 4 required:

- (a) Describe how risk management should be implemented in a company listed on the Singapore Exchange (SGX).
 (4 marks)
- (b) Principle 11 in the Singapore Code of Corporate Governance notes that the Board of Directors is responsible for the governance of risk and should ensure that a sound system of risk management and internal controls to safeguard shareholders' interests and the company's assets is in place.
 - (i) Outline what it means when an organisation is described as having a 'low risk appetite'; and
 (2 marks)
 - (ii) Based on the facts of the case, assess the likely risk appetite of QwikShokPte Limited. Justify your assessment. (3 marks)
- (c) Explain the difference between strategic risks and operational risks and comment on the Board's view that operational risks '*just need to be dealt with as problems arise*'.
 (4 marks)
- (d) Describe THREE actions the Board of Directors of QwikShok Pte Limited could take to formalise its approach to risk management in preparation for listing on the Singapore Exchange (SGX).
 (6 marks)

(e) Advise the Board of Directors how they could use the risk response framework of Accept, Transfer, Reduce, and Avoid to best manage the risk of death or injury to customers arising from failures when using QwikShok Pte Limited's equipment (e.g. electric shocks). Your advice should address all four possible risk responses and you must provide justification for your advice. (6 marks) (Total: 25 marks)

END OF PAPER

Appendix A – Formulae and Present Value Tables

Financial ratios

Current ratio	= Current assets / Current liabilities
Net working capital	= Current assets - Current liabilities
Return on total assets	= Net income / Average total assets
Return on equity	= Net income / Average shareholders' equity
Receivables days	= (Accounts receivable balance / annual credit sales) x 365
Receivables turnover	= (Annual credit sales/ Accounts receivable balance) to give
	'times a year'
Payables days	= (Accounts payable balance / annual purchases or cost of
	sales) x 365
Payables turnover	= (Annual purchases or cost of sales/ Accounts payable
	balance) to give 'times a year'
Inventory days	= (Inventory balance / cost of sales) x 365
Inventory turnover	= (Cost of sales / inventory balance) to give 'times a year'

Yield of preference share = Dividend per year / market price

After-tax Cost of a bank loan = 1% (1-t)

Where:

I% = the annual percentage rate payable on the loan

t = the annual corporation tax rate

Capital Asset Pricing Model (CAPM)

 $k_s = R_f + \beta_s (R_m - R_f)$

Where:

 $k_s = cost of a security to the company$

 R_f = the risk-free rate of return

 R_m = the average return on securities in the stock market as a whole

 β_s = the beta factor for the security

Dividend growth model

$$\begin{split} & \mathsf{K}_{e} = \left[\mathsf{D}_{0}(\mathsf{1}\!+\!\mathsf{g}) \; / \; \mathsf{P}_{0}\right] + \mathsf{g} \\ & \textit{Where:} \\ & \mathsf{K}_{e} = \mathsf{the cost of equity} \\ & \mathsf{D}_{0} = \mathsf{the current dividend per share} \\ & \mathsf{g} = \mathsf{future anticipated annual growth rate in dividends per share} \\ & \mathsf{P}_{0} = \mathsf{the current ex-div share price} \end{split}$$

g can be estimated as

(D_r / D_e)^(1/n) -1

Where:

Dr = the latest dividend in a historical pattern

 D_e – the earliest dividend in a historical pattern

n = the number of years between the earliest and the latest dividend in a sequence of historical dividends.

Valuations

Weighted Average Cost of Capital (WACC)

WACC% = $[(Ve/(Ve+Vd) \times Ke] + [(Vd/(Ve+Vd) \times Kd])]$

Where:

Ve = The market value of all ordinary shares

Vd = The market value of debt

- Ke = Cost of Equity
- Kd = After-tax Cost of Debt

Constant Growth Dividend discount model

 $P_0 = D_0 (1+g) / (K_e-g)$

Where:

 K_e = the cost of equity

 D_0 = the current dividend per share

g = future anticipated annual growth rate in dividends per share

 P_0 = the current ex-div share value of one share

Price-Earnings (P/E) model (EPS)

 $P_0 = P/E \times EPS$

Where:

 P_0 = value of 1 ordinary share

P/E = an applicable price/earnings ratio (calculated as price per share / earnings per share)

EPS = earnings per share (being earnings available for distribution to ordinary shareholders / number of ordinary shares)

Present value of an annuity

<u>1-(1+r)⁻ⁿ</u> r

Where:

r = discount rate

n = number of periods

Present value

 $PV = FV_n/(1 + i)^n$ *Where:* PV = Present Value $FV_n = Future value at end of period n$ i = Interest rate per periodn = Number of periods

Preser	nt value i	nterest f	actor of a	an (ordin P	nary) ann VIFA(i,n	uity of \$).	1 per peri	iod at i%	for n pe	riods,
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514
Period	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

resont value interest lactor of ψ1 per period at 1/0101 if periods, F VII	(1,11).
Period 1% 2% 3% 4% 5% 6% 7% 8%	9% 10%
1 0.990 0.980 0.971 0.962 0.952 0.943 0.935 0.926 0	0.917 0.909
2 0.980 0.961 0.943 0.925 0.907 0.890 0.873 0.857 0	0.842 0.826
3 0.971 0.942 0.915 0.889 0.864 0.840 0.816 0.794 0	0.772 0.751
4 0.961 0.924 0.888 0.855 0.823 0.792 0.763 0.735 0	0.708 0.683
5 0.951 0.906 0.863 0.822 0.784 0.747 0.713 0.681 0	0.650 0.621
6 0.942 0.888 0.837 0.790 0.746 0.705 0.666 0.630 0	0.596 0.564
7 0.933 0.871 0.813 0.760 0.711 0.665 0.623 0.583 0	0.547 0.513
8 0.923 0.853 0.789 0.731 0.677 0.627 0.582 0.540 0	0.502 0.467
9 0.914 0.837 0.766 0.703 0.645 0.592 0.544 0.500 0	0.460 0.424
10 0.905 0.820 0.744 0.676 0.614 0.558 0.508 0.463 0	0.422 0.386
11 0.896 0.804 0.722 0.650 0.585 0.527 0.475 0.429 0	0.388 0.350
12 0.887 0.788 0.701 0.625 0.557 0.497 0.444 0.397 0	0.356 0.319
13 0.879 0.773 0.681 0.601 0.530 0.469 0.415 0.368 0	0.326 0.290
14 0.870 0.758 0.661 0.577 0.505 0.442 0.388 0.340 0	0.299 0.263
15 0.861 0.743 0.642 0.555 0.481 0.417 0.362 0.315 0	0.275 0.239
16 0.853 0.728 0.623 0.534 0.458 0.394 0.339 0.292 0	0.252 0.218
17 0.844 0.714 0.605 0.513 0.436 0.371 0.317 0.270 0	0.231 0.198
18 0.836 0.700 0.587 0.494 0.416 0.350 0.296 0.250 0	0.212 0.180
19 0.828 0.686 0.570 0.475 0.396 0.331 0.277 0.232 0	0.194 0.164
20 0.820 0.673 0.554 0.456 0.377 0.312 0.258 0.215 0	0.178 0.149
Period 11% 12% 13% 14% 15% 16% 17% 18%	19% 20%
	0.840 0.833
	0.706 0.694
3 0.731 0.712 0.693 0.675 0.658 0.641 0.624 0.609 0	0.593 0.579
	0.499 0.482
5 0.593 0.567 0.543 0.519 0.497 0.476 0.456 0.437 0	0.419 0.402
	0.352 0.335
	0.290 0.279
	0.249 0.233
	1.209 0.194
	1.170 0.102
	1.140 0.133
	1.124 0.112
	0.104 0.093 0.088 0.070
	0.003 + 0.003
	0.002 0.004
	0.040
	0.030
	0.001 0.001

Appendix B – Common verbs used by the Examiners

Verb	Description
Advise / Give advice	This type of question requires you to give specific guidance to an individual or a group (e.g. a taxpayer, audit client, management, etc.), so your answer must provide specific information or make a recommendation tailored to the individual or group and justify you position.
Assess	Make a judgment about the value, quality, outcomes, results, or size. Often there will be a qualifier in the instruction, which will tell you exactly what to assess .
Calculate / Compute	Do the number crunching and derive the correct answer. Make sure that you write down your workings and crosscheck your numbers.
Comment	Comment is similar to evaluate in that you are required to make a judgment or provide your opinion based on the facts at hand. Professional scepticism and professional judgment are called for when commenting .
Describe	Describe requires you to provide the characteristics and features of an item or situation without going into step-by-step detail of how to perform that procedure.
Estimate	Suggest an approximate value (or range of values) based on the available information. Remember, although estimating involves uncertainty, some answers will be <u>more right</u> (or appropriate) than others.
Explain	Explain requires you to write at least several sentences conveying how you have analysed the information in a way that a layperson can easily understand the concept or grasp the technical issue at hand.
Identify	Identify is similar to list, but requires you to also provide an explanation as to why the item/s that you have identified is/are relevant to the facts given in the question.
Justify	Whenever you see the word justify you <u>must</u> provide reasons for your answer, in other words, provide support for your argument or conclusion. If you fail to justify your answer, you will lose valuable marks.
Outline	Outline requires you to provide a general overview of the situation and indicate the main features.
Propose	Put forward (for example, a point of view, idea, argument, alternatives, etc.) for consideration or action and justify your opinion.
Quantify	Provide a <u>numerical value</u> (an exact calculation) or <u>a range of</u> <u>values</u> (upper/lower limits, average, likely values, etc.).