FP

Chartered Accountant SINGAPORE

Singapore CA Qualification (Foundation) Examination

13 December 2018

Financial Management

INSTRUCTIONS TO CANDIDATES:

1. The time allowed for this examination paper is **3 hours 15 minutes**.

2. This examination paper has **FOUR (4)** questions and comprises **EIGHTEEN (18)** pages (including this instruction sheet, Appendix A and Appendix B). Each question may have **MULTIPLE** parts and **ALL** questions are examinable.

3. 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.

4. During the examination, you are allowed to use your laptop and any calculators that comply with the SAC's regulations. Please note that mobile phones, tablets, and all other electronic devices **MUST NOT** be used during the examination.

5. This examination paper is the property of the Singapore Accountancy Commission.

MODULE-SPECIFIC INSTRUCTIONS:

6. Assume that all dollar amounts are in Singapore dollar (S$) unless otherwise stated.

Question 1 – (a), (b), (c), and (d)

Today is 1 January 20x5. Novena Commercial Properties Pte Ltd (NCP) is a private property developer based in Singapore, and has recently been offered a major contract to build a new shopping complex on Singapore Island. It would be paid $200 million upon completion of construction on 31 December 20x7.

The project will require an initial investment of $130 million, half payable immediately and half in 12 months' time. The scrap value associated with this investment is $40 million (in 1 January 20x5 prices) and will be received upon completion of construction.

Working capital for any given year has to be in place at the start of that year. Working capital of $40 million will be required immediately and it will increase by 10% each year in 1 January 20x5 prices. This will be recovered in full upon completion of construction.

Labour costs will be $10 million a year for the first 2 years and rising to $15 million for the third year. These costs are stated in nominal terms.

Additional information:

1. Inflation is 5% per year.
2. The real cost of capital is 4.762% per year.
3. You may ignore taxation.
4. Assume that labour costs arise at the end of the year to which they relate.

Examplify Question Number	Question 1 required:
1	**(a)** Calculate the net present value of the contract on 1 January 20x5 to the nearest $1 million and conclude whether or not Novena Commercial Properties Pte Ltd should proceed.

Present your answers using the following format:

1 January 20X5

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

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

Subtotal = S$ Answer

1 January 20X6

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

Name of Item 2 = Workings = **S$ Answer**

Subtotal = S$ Answer

Total NPV of the contract = S$ Answer

(13 marks)

2	**(b)** Calculate the percentage by which the project price of $200 million would have to change before the decision of whether or not to proceed changes (the 'sensitivity' of the decision to the project price). You should present your answer to the nearest whole percent point. **(3 marks)**

Examplify Question Number	
3	**(c)** Estimate the internal rate of return of the project to the nearest whole percent using linear interpolation, and using your answer, conclude whether or not the project should proceed. **(5 marks)**
4	**(d)** Describe TWO advantages and TWO disadvantages of using the net present value method of investment appraisal as opposed to the internal rate of return method. **(4 marks)** **(Total: 25 marks)**

Question 2 – (a), (b) and (c)

Today is 1 January 20x6. Seletar Aircraft Maintenance Ltd (SAM) is a listed company based in Singapore. SAM is considering expanding its operations in the Seletar Aerospace Park. In order to assess this decision, SAM needs to calculate its cost of capital for use in investment appraisal.

Following is an extract of the Statement of Financial Position of SAM as at 31 December 20x5:

	$ millions	***$ millions***
Total assets less current liabilities		**2,500**
Ordinary share capital	150	
Ordinary share premium	300	
Retained earnings	750	
Total equity		**1,200**
Preference shares		300
5% Bank loan		1,000
		2,500

The ordinary capital is made up of $0.50 shares that are currently trading at $5.50 per share cum dividend. A dividend of $0.50 per share is about to be paid.

Recent dividend history is as follows:

31 December	**20x2**	**20x3**	**20x4**	**20x5**
Dividend per share (cents)	40	43	46	50

Additional information:

1. The issued share capital has not changed over this period.

2. The preference shares are $1 nominal value each, and pay a 7% annual dividend. They are irredeemable and are currently trading at $1.50 ex dividend per share.

3. The industry average gearing level [debt/ (debt + equity)] is 60%.

4. Bank loan is an interest only loan which is repayable in 20x9.

5. The relevant corporate income tax rate is 17%.

Examplify Question Number	Question 2 required:
	(a) Calculate:
5	**(i)** The current Weighted Average Cost of Capital (WACC), including the cost of the individual sources as percentages to 2 decimal places. **(12 marks)**
6	**(ii)** The current gearing level using market values and state the key assumptions you make. Gearing should be calculated as debt/(debt + equity). **(2 marks)**
	The board is considering financing their expansion by raising $750 million additional bank loans. This will reduce their credit rating and affect the cost of all bank debt by 1% gross.
7	**(b)** Calculate the impact on the Weighted Average Cost of Capital (WACC) of raising the additional bank loans, assuming it has no impact on the cost or value of equity. **(5 marks)**
8	**(c)** Advise, with reasons, whether or not SAM should expand using debt or equity. **(6 marks)**
	(Total: 25 marks)

Question 3 – (a), (b), (c) and (d)

Charging Without Wires Pte Ltd (CWW) is a 6 month-old business, as of 30 June 20X7, that makes components for the wireless charging of small appliances such as mobile phones, wireless headphones and smart watches. Its patent protected technology allows charging from a distance of up to 10 metres. It had an initial cash injection of $2 million from its founder. $1 million of this was spent immediately on machinery, to be depreciated on a straight-line basis over a 10-year period.

During its first month, sales amounted to $100,000. This has been doubling every month. Cost of sales is 50% of sales.

In order to attract new business, CWW have been offering their customers credit terms of 3 months.

As a new business, they are struggling to obtain credit from their suppliers; they have only managed to obtain 1 month's credit from their suppliers. Supplies are therefore ordered as required; no inventory is held.

Ignore all tax implications.

Examplify Question Number	
	Question 3 required:
9	**(a)** Calculate the profit or loss for the first six months to 30 June 20x7.

Present your answers using the following format:

January 20X7

Name of Account 1 = (Workings) = **S$ Answer**

Name of Account 2 = (Workings & Workings) = **S$ Answer**

Profit/ loss = S$ Answer

February 20X7

Name of Account 1 = (Workings & Workings) = **S$ Answer**

Name of Account 2 = Workings = **S$ Answer**

Profit/ loss = S$ Answer

Total Profit/ loss = S$ Answer

(7 marks)

10 **(b)** Calculate the cash balance as at 30 June 20x7 from the information provided. **(5 marks)**

11 **(c)** Compare your answers calculated in parts (a) and (b) above, explain the reasons for the differences and discuss any immediate issues that will be faced by the business in the coming months. **(5 marks)**

Examplify Question Number		
12	**(d)**	Evaluate the options to address this issue and propose an appropriate recommendation, with justification, to resolve this issue. **(8 marks)**
		(Total: 25 marks)

Question 4 – (a), (b), (c) and (d)

At a recent board meeting of Never Late Air Freight Pte Ltd (NLAF), the board was discussing preparations being made in advance of a planned listing in 18 months' time.

Formal risk management was discussed. The Human Resources (HR) director said that 'it's too expensive to minimise or eliminate risk, so we shouldn't even try. We should just accept business is risky and manage as best we can.'

The Finance director said 'I don't think that's good enough. We need a formal risk management process to demonstrate to our future shareholders that we are serious about managing their money.'

The HR director responded that 'anyone who invests in shares should expect to take on risk. They are clearly risk seekers so they would not expect us to spend money in this area.'

The Marketing director added that 'Let's get the control environment sorted out, and we won't need to bother them with detailed control procedures. Is that a good compromise?'

Examplify Question Number	Question 4 required:
13	**(a)** Discuss the accuracy in the Human Resources director's assertion that risk management is about minimising or eliminating risk. **(4 marks)**
14	**(b)** Discuss the Marketing director's statement. **(4 marks)**
15	**(c)** Outline a suitable formal risk management process for Never Late Air Freight Pte Ltd. Describe the meeting groups that should be set up, and the processes they could implement to identify, assess and manage risk in a formal and transparent manner. **(10 marks)**
16	**(d)** Explain the THREE possible main attitudes to risk and how these affect the risk management process. **(7 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 = I% (1-t)

Where:

I% = the annual percentage rate payable on the loan

t = the annual corporation tax rate

Capital Asset Pricing Model (CAPM)

$k_s = R_f + ß_s (R_m – R_f)$

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

$K_e = [D_0(1+g) / P_0] + g$

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 price

g can be estimated as

$(D_r / D_e)^{(1/n)} - 1$

Where:

D_r = 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) x Ke] + [(Vd/(Ve+Vd) x 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

$$\frac{1-(1+r)^{-n}}{r}$$

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 period

n = Number of periods

Internal Rate of Return

IRR is approximately $A + [(B-A) \times Na] / (N_A - N_B)$

Where:

A = The lower discount rate chosen

B = The higher discount rate chosen

N_A = The net present value calculated at A%

N_B = The net present value calculated at B%

Present value interest factor of an (ordinary) annuity of $1 per period at i% for n periods, PVIFA(i,n).										
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

Present value interest factor of $1 per period at i% for n periods, PVIF(i,n).

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	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149

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	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065
16	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

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.
Calculate / Compute	Do the number crunching and derive the correct answer. Make sure that you write down your workings and crosscheck your numbers.
Compare and Contrast	**Compare** requires you to show how things are similar and/or different while **contrast** requires you to show how things are different or opposite. Even if you are asked just to **compare**, you must indicate both the similarities and differences.
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.
Discuss	**Discuss** requires you to provide the 'for' and 'against' arguments, you cannot have a discussion without opposing views otherwise it would be just a conversation. If **discuss** is placed near the front of the instruction, then it requires you to provide an answer that is similar to **explain**, but addresses both the for and against arguments.
Estimate	Suggest an approximate value (or range of values) based on the available information. Remember, although **estimating** involves uncertainty, some answers will be more right (or appropriate) than others.
Evaluate	Pass judgment on or provide your opinion based on the facts at hand. When making an **evaluation**, there are often predetermined criteria that you will use to base your opinion on. The key here is to give your opinion or make a judgment of the facts, but providing just a **description** of the facts is insufficient. Professional judgment and scepticism (a questioning mind) are called for when making an **evaluation**.
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.