

Fundamentals Level – Skills Module

Financial Management

March/June 2017 – Sample Questions



Time allowed: 3 hours 15 minutes

This question paper is divided into three sections:

Section A – ALL 15 questions are compulsory and **MUST** be attempted

Section B – ALL 15 questions are compulsory and **MUST** be attempted

Section C – BOTH questions are compulsory and **MUST** be attempted

Formulae Sheet, Present Value and Annuity Tables are on pages 4–6.

Do NOT open this question paper until instructed by the supervisor.

Do NOT record any of your answers on the question paper.

This question paper must not be removed from the examination hall.

Think Ahead

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Section C – BOTH questions are compulsory and MUST be attempted

Please write your answers to all parts of these questions on the lined pages within the Candidate Answer Booklet.

31 It is the middle of December 20X6 and Pangli Co is looking at working capital management for January 20X7.

Forecast financial information at the start of January 20X7 is as follows:

Inventory	\$455,000
Trade receivables	\$408,350
Trade payables	\$186,700
Overdraft	\$240,250

All sales are on credit and they are expected to be \$3.5m for 20X6. Monthly sales are as follows:

November 20X6 (actual)	\$270,875
December 20X6 (forecast)	\$300,000
January 20X7 (forecast)	\$350,000

Pangli Co has a gross profit margin of 40%. Although Pangli Co offers 30 days credit, only 60% of customers pay in the month following purchase, while the remaining customers take an additional month of credit.

Inventory is expected to increase by \$52,250 during January 20X7.

Pangli Co plans to pay 70% of trade payables in January 20X7 and defer paying the remaining 30% until the end of February 20X7. All suppliers of the company require payment within 30 days. Credit purchases from suppliers during January 20X7 are expected to be \$250,000.

Interest of \$70,000 is due to be paid in January 20X7 on fixed rate bank debt. Operating cash outflows are expected to be \$146,500 in January 20X7. Pangli Co has no cash and relies on its overdraft to finance daily operations. The company has no plans to raise long-term finance during January 20X7.

Assume that each year has 360 days.

Required:

- (a) (i) Calculate the cash operating cycle of Pangli Co at the start of January 20X7.** (2 marks)
 - (ii) Calculate the overdraft expected at the end of January 20X7.** (4 marks)
 - (iii) Calculate the current ratios at the start and end of January 20X7.** (4 marks)
- (b) Discuss FIVE techniques that Pangli Co could use in managing trade receivables.** (10 marks)

(20 marks)

32 Vyxyn Co is evaluating a planned investment in a new product costing \$20m, payable at the start of the first year of operation. The product will be produced for four years, at the end of which production will cease. The investment project will have a terminal value of zero. Financial information relating to the investment project is as follows:

Year	1	2	3	4
Sales volume (units/year)	440,000	550,000	720,000	400,000
Selling price (\$/unit)	26.50	28.50	30.00	26.00
Fixed cost (\$/year)	1,100,000	1,121,000	1,155,000	1,200,000

These selling prices have not yet been adjusted for selling price inflation, which is expected to be 3.5% per year. The annual fixed costs are given above in nominal terms.

Variable cost per unit depends on whether competition is maintained between suppliers of key components. The purchasing department has made the following forecast:

Competition	Strong	Moderate	Weak
Probability	45%	35%	20%
Variable cost (\$/unit)	10.80	12.00	14.70

The variable costs in this forecast are before taking account of variable cost inflation of 4.0% per year.

Vyxyn Co can claim tax-allowable depreciation on a 25% per year reducing balance basis on the full investment cost of \$20m and pays corporation tax of 28% per year one year in arrears.

It is planned to finance the investment project with an issue of 8% loan notes, redeemable in ten years' time. Vyxyn Co has a nominal after-tax weighted average cost of capital of 10%, a real after-tax weighted average cost of capital of 7% and a cost of equity of 11%.

Required:

- (a) **Discuss the difference between risk and uncertainty in relation to investment appraisal.** (3 marks)
- (b) **Calculate the expected net present value of the investment project and comment on its financial acceptability and on the risk relating to variable cost.** (9 marks)
- (c) **Critically discuss how risk can be considered in the investment appraisal process.** (8 marks)

(20 marks)

Formulae Sheet

Economic order quantity

$$= \sqrt{\frac{2C_0D}{C_h}}$$

Miller–Orr Model

$$\text{Return point} = \text{Lower limit} + \left(\frac{1}{3} \times \text{spread}\right)$$

$$\text{Spread} = 3 \left[\frac{\frac{3}{4} \times \text{transaction cost} \times \text{variance of cash flows}}{\text{interest rate}} \right]^{\frac{1}{3}}$$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i (E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{(V_e + V_d(1-T))} \beta_e \right] + \left[\frac{V_d(1-T)}{(V_e + V_d(1-T))} \beta_d \right]$$

The Growth Model

$$P_0 = \frac{D_0(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$\text{WACC} = \left[\frac{V_e}{V_e + V_d} \right] k_e + \left[\frac{V_d}{V_e + V_d} \right] k_d (1-T)$$

The Fisher formula

$$(1+i) = (1+r)(1+h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 \times \frac{(1+h_c)}{(1+h_b)} \quad F_0 = S_0 \times \frac{(1+i_c)}{(1+i_b)}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
 n = number of periods until payment

<i>Discount rate (r)</i>											
<i>Periods</i>											
(n)	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	1
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	2
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	3
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	4
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	5
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	6
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	7
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	8
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	9
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	10
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	11
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	12
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	13
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	14
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	15
(n)	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	1
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694	2
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579	3
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482	4
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402	5
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335	6
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279	7
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233	8
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194	9
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162	10
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135	11
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112	12
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093	13
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078	14
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1 - (1 + r)^{-n}}{r}$

Where r = discount rate
 n = number of periods

		<i>Discount rate (r)</i>									
<i>Periods</i>											
(n)	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	1
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	2
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	3
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	4
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	5
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	6
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	7
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	8
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	9
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	10
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	11
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	12
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	13
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	14
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	15
(n)	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	1
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528	2
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106	3
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589	4
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991	5
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326	6
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605	7
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837	8
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031	9
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192	10
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327	11
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439	12
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533	13
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611	14
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675	15

End of Question Paper