

Fundamentals Level – Skills Module

Financial Management

Specimen Exam applicable from
September 2016



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 14–16.

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.

The Association of Chartered Certified Accountants

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

Please use the grid provided on page two of the Candidate Answer Booklet to record your answers to each multiple choice question. Do not write out the answers to the MCQs on the lined pages of the answer booklet.

Each question is worth 2 marks.

- 1 The home currency of ACB Co is the dollar (\$) and it trades with a company in a foreign country whose home currency is the Dinar. The following information is available:

	Home country	Foreign country
Spot rate	20.00 Dinar per \$	
Interest rate	3% per year	7% per year
Inflation rate	2% per year	5% per year

What is the six-month forward exchange rate?

- A 20.39 Dinar per \$
 - B 20.30 Dinar per \$
 - C 20.59 Dinar per \$
 - D 20.78 Dinar per \$
- 2 The following financial information relates to an investment project:

	\$'000
Present value of sales revenue	50,025
Present value of variable costs	25,475
Present value of contribution	24,550
Present value of fixed costs	18,250
Present value of operating income	6,300
Initial investment	5,000
Net present value	1,300

What is the sensitivity of the net present value of the investment project to a change in sales volume?

- A 7.1%
 - B 2.6%
 - C 5.1%
 - D 5.3%
- 3 Gurdip plots the historic movements of share prices and uses this analysis to make her investment decisions.

To what extent does Gurdip believe capital markets to be efficient?

- A Not efficient at all
- B Weak form efficient
- C Semi-strong form efficient
- D Strong form efficient

4 Which of the following statements concerning capital structure theory is correct?

- A** In the traditional view, there is a linear relationship between the cost of equity and financial risk
- B** Modigliani and Miller said that, in the absence of tax, the cost of equity would remain constant
- C** Pecking order theory indicates that preference shares are preferred to convertible debt as a source of finance
- D** Business risk is assumed to be constant as the capital structure changes

5 Which of the following actions is LEAST likely to increase shareholder wealth?

- A** The weighted average cost of capital is decreased by a recent financing decision
- B** The financial rewards of directors are linked to increasing earnings per share
- C** The board of directors decides to invest in a project with a positive NPV
- D** The annual report declares full compliance with the corporate governance code

6 Which of the following statements are features of money market instruments?

- (1) A negotiable security can be sold before maturity
- (2) The yield on commercial paper is usually lower than that on treasury bills
- (3) Discount instruments trade at less than face value

- A** 2 only
- B** 1 and 3 only
- C** 2 and 3 only
- D** 1, 2 and 3

7 The following are extracts from the statement of profit or loss of CQB Co:

	\$'000
Sales income	60,000
Cost of sales	50,000
	<hr/>
Profit before interest and tax	10,000
Interest	4,000
	<hr/>
Profit before tax	6,000
Tax	4,500
	<hr/>
Profit after tax	1,500

60% of the cost of sales is variables costs.

What is the operational gearing of CQB Co?

- A** 5.0 times
- B** 2.0 times
- C** 0.5 times
- D** 3.0 times

- 8 The management of XYZ Co has annual credit sales of \$20 million and accounts receivable of \$4 million. Working capital is financed by an overdraft at 12% interest per year. Assume 365 days in a year.

What is the annual finance cost saving if the management reduces the collection period to 60 days?

- A \$85,479
- B \$394,521
- C \$78,904
- D \$68,384

- 9 **Which of the following statements concerning financial management are correct?**

- (1) It is concerned with investment decisions, financing decisions and dividend decisions
- (2) It is concerned with financial planning and financial control
- (3) It considers the management of risk

- A 1 and 2 only
- B 1 and 3 only
- C 2 and 3 only
- D 1, 2 and 3

- 10 SKV Co has paid the following dividends per share in recent years:

Year	20X4	20X3	20X2	20X1
Dividend (\$ per share)	0.360	0.338	0.328	0.311

The dividend for 20X4 has just been paid and SKV Co has a cost of equity of 12%.

Using the geometric average historical dividend growth rate and the dividend growth model, what is the market price of SKV Co shares on an ex dividend basis?

- A \$4.67
- B \$5.14
- C \$5.40
- D \$6.97

- 11 'There is a risk that the value of our foreign currency-denominated assets and liabilities will change when we prepare our accounts'

To which risk does the above statement refer?

- A Translation risk
- B Economic risk
- C Transaction risk
- D Interest rate risk

12 The following information has been calculated for A Co:

Trade receivables collection period:	52 days
Raw material inventory turnover period:	42 days
Work in progress inventory turnover period:	30 days
Trade payables payment period:	66 days
Finished goods inventory turnover period:	45 days

What is the length of the working capital cycle?

- A** 103 days
- B** 131 days
- C** 235 days
- D** 31 days

13 Which of the following is/are usually seen as benefits of financial intermediation?

- (1) Interest rate fixing
- (2) Risk pooling
- (3) Maturity transformation

- A** 1 only
- B** 1 and 3 only
- C** 2 and 3 only
- D** 1, 2 and 3

14 Which of the following statements concerning working capital management are correct?

- (1) The twin objectives of working capital management are profitability and liquidity
- (2) A conservative approach to working capital investment will increase profitability
- (3) Working capital management is a key factor in a company's long-term success

- A** 1 and 2 only
- B** 1 and 3 only
- C** 2 and 3 only
- D** 1, 2 and 3

15 Governments have a number of economic targets as part of their monetary policy.

Which of the following targets relate predominantly to monetary policy?

- (1) Increasing tax revenue
- (2) Controlling the growth in the size of the money supply
- (3) Reducing public expenditure
- (4) Keeping interest rates low

- A** 1 only
- B** 1 and 3
- C** 2 and 4 only
- D** 2, 3 and 4

(30 marks)

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

Please use the grid provided on page two of the Candidate Answer Booklet to record your answers to each multiple choice question. Do not write out the answers to the MCQs on the lined pages of the answer booklet.

Each question is worth 2 marks.

The following scenario relates to questions 16–20.

Par Co currently has the following long-term capital structure:

	\$m	\$m
Equity finance		
Ordinary shares	30.0	
Reserves	38.4	
	<hr/>	68.4
Non-current liabilities		
Bank loans	15.0	
8% convertible loan notes	40.0	
5% redeemable preference shares	15.0	
	<hr/>	70.0
Total equity and liabilities		<hr/> <hr/> 138.4

The 8% loan notes are convertible into eight ordinary shares per loan note in seven years' time. If not converted, the loan notes can be redeemed on the same future date at their nominal value of \$100. Par Co has a cost of debt of 9% per year.

The ordinary shares of Par Co have a nominal value of \$1 per share. The current ex dividend share price of the company is \$10.90 per share and share prices are expected to grow by 6% per year for the foreseeable future. The equity beta of Par Co is 1.2.

- 16** The loan notes are secured on non-current assets of Par Co and the bank loan is secured by a floating charge on the current assets of the company.

In terms of risk to the investor, what are the riskiest and least risky sources of finance for Par Co?

	Riskiest	Least risky
A	Redeemable preference shares	Bank loan
B	Ordinary shares	Bank loan
C	Bank loan	Loan notes
D	Ordinary shares	Loan notes

- 17** What is the conversion value of the 8% loan notes of Par Co after seven years?

- A** \$16.39
- B** \$111.98
- C** \$131.12
- D** \$71.72

18 Assuming the conversion value after seven years is \$126.15, what is the current market value of the 8% loan notes of Par Co?

- A** \$115.20
- B** \$109.26
- C** \$94.93
- D** \$69.00

19 Which of the following statements relating to the capital asset pricing model is correct?

- A** The equity beta of Par Co considers only business risk
- B** The capital asset pricing model considers systematic risk and unsystematic risk
- C** The equity beta of Par Co indicates that the company is more risky than the market as a whole
- D** The debt beta of Par Co is zero

20 Which of the following statements are problems in using the price/earnings ratio method to value a company?

- (1) It is the reciprocal of the earnings yield
 - (2) It combines stock market information and corporate information
 - (3) It is difficult to select a suitable price/earnings ratio
 - (4) The ratio is more suited to valuing the shares of listed companies
- A** 1 and 2 only
 - B** 3 and 4 only
 - C** 1, 3 and 4 only
 - D** 1, 2, 3 and 4

The following scenario relates to questions 21–25

ZPS Co, whose home currency is the dollar, took out a fixed-interest peso bank loan several years ago when peso interest rates were relatively cheap compared to dollar interest rates. ZPS Co does not have any income in pesos. Economic difficulties have now increased peso interest rates while dollar interest rates have remained relatively stable.

ZPS Co must pay interest on the dates set by the bank. A payment of 5,000,000 pesos is due in six months' time. The following information is available:

Spot rate	12.500–12.582 pesos per \$
Six-month forward rate	12.805–12.889 pesos per \$

Interest rates which can be used by ZPS Co:

	Borrow	Deposit
Peso interest rates	10.0% per year	7.5% per year
Dollar interest rates	4.5% per year	3.5% per year

21 What is the dollar cost of a forward market hedge?

- A \$390,472
- B \$387,928
- C \$400,000
- D \$397,393

22 Which of the following statements relate to purchasing power parity theory?

- (1) The theory holds in the long term rather than the short term
- (2) The exchange rate reflects the different cost of living in two countries
- (3) The forward rate can be found by multiplying the spot rate by the ratio of the interest rates of the two countries

- A 1, 2 and 3
- B 1 and 2 only
- C 1 and 3 only
- D 2 only

23 What are the appropriate six-month interest rates for ZPS Co to use if the company hedges the peso payment using a money market hedge?

	Deposit rate	Borrowing rate
A	7.5%	4.5%
B	1.75%	5.0%
C	3.75%	2.25%
D	3.5%	10.0%

24 Which of the following methods are possible ways for ZPS Co to hedge its existing foreign currency risk?

- (1) Matching receipts and payments
- (2) Currency swaps
- (3) Leading or lagging
- (4) Currency futures

- A 1, 2, 3 and 4
- B 1 and 3 only
- C 2 and 4 only
- D 2, 3 and 4 only

25 ZPS Co also trades with companies in Europe which use the Euro as their home currency. In three months' time ZPS Co will receive €300,000 from a customer.

Which of the following is the correct procedure for hedging this receipt using a money market hedge?

- A** Step 1 Borrow an appropriate amount in Euro now
Step 2 Convert the Euro amount into dollars
Step 3 Place the dollars on deposit
Step 4 Use the customer payment to repay the loan
- B** Step 1 Borrow an appropriate amount in dollars now
Step 2 Place the dollars on deposit now
Step 3 Convert the dollars into Euro in three months' time
Step 4 Use the customer payment to repay the loan
- C** Step 1 Borrow an appropriate amount in dollars now
Step 2 Convert the dollar amount into Euro
Step 3 Place the Euro on deposit
Step 4 Use the customer payment to repay the loan
- D** Step 1 Borrow an appropriate amount in Euro now
Step 2 Place the Euro on deposit now
Step 3 Convert the Euro into dollars in three months' time
Step 4 Use the customer payment to repay the loan

The following scenario relates to questions 26–30

Ridag Co operates in an industry which has recently been deregulated as the government seeks to increase competition in the industry.

Ridag Co plans to replace an existing machine and must choose between two machines. Machine 1 has an initial cost of \$200,000 and will have a scrap value of \$25,000 after four years. Machine 2 has an initial cost of \$225,000 and will have a scrap value of \$50,000 after three years. Annual maintenance costs of the two machines are as follows:

Year	1	2	3	4
Machine 1 (\$ per year)	25,000	29,000	32,000	35,000
Machine 2 (\$ per year)	15,000	20,000	25,000	

Where relevant, all information relating to this project has already been adjusted to include expected future inflation. Taxation and tax allowable depreciation must be ignored in relation to Machine 1 and Machine 2.

Ridag Co has a nominal before-tax weighted average cost of capital of 12% and a nominal after-tax weighted average cost of capital of 7%.

26 In relation to Ridag Co, which of the following statements about competition and deregulation are true?

- (1) Increased competition should encourage Ridag Co to reduce costs
- (2) Deregulation will lead to an increase in administrative and compliance costs for Ridag Co
- (3) Deregulation should mean an increase in economies of scale for Ridag Co
- (4) Deregulation could lead to a decrease in the quality of Ridag Co's products

- A** 1 and 4
B 2 and 3
C 1 and 3
D 2 and 4

27 What is the equivalent annual cost of Machine 1?

- A** \$90,412
B \$68,646
C \$83,388
D \$70,609

28 Which of the following statements about Ridag Co using the equivalent annual cost method are true?

- (1) Ridag Co cannot use the equivalent annual cost method to compare Machine 1 and Machine 2 because they have different useful lives
- (2) The machine which has the lowest total present value of costs should be selected by Ridag Co

- A** 1 only
B Both 1 and 2
C 2 only
D Neither 1 nor 2

29 Doubt has been cast over the accuracy of the year 2 and year 3 maintenance costs for Machine 2. On further investigation it was found that the following potential cash flows are now predicted:

Year	Cash flow (\$)	Probability
2	18,000	0·3
2	25,000	0·7
3	23,000	0·2
3	24,000	0·35
3	30,000	0·45

What is the expected present value of the maintenance costs for year 3?

- A** \$26,500
- B** \$18,868
- C** \$21,624
- D** \$35,173

30 Ridag Co is appraising a different project, with a positive NPV. It is concerned about the risk and uncertainty associated with this other project.

Which of the following statements about risk, uncertainty and the project is true?

- A** Sensitivity analysis takes into account the interrelationship between project variables
- B** Probability analysis can be used to assess the uncertainty associated with the project
- C** Uncertainty can be said to increase with project life, while risk increases with the variability of returns
- D** A discount rate of 5% could be used to lessen the effect of later cash flows on the decision

(30 marks)

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 PV Co, a large stock-exchange-listed company, is evaluating an investment proposal to manufacture Product W33, which has performed well in test marketing trials conducted recently by the company's research and development division. Product W33 will be manufactured using a fully-automated process which would significantly increase noise levels from PV Co's factory. The following information relating to this investment proposal has now been prepared:

Initial investment	\$2 million
Selling price (current price terms)	\$20 per unit
Expected selling price inflation	3% per year
Variable operating costs (current price terms)	\$8 per unit
Fixed operating costs (current price terms)	\$170,000 per year
Expected operating cost inflation	4% per year

The research and development division has prepared the following demand forecast as a result of its test marketing trials. The forecast reflects expected technological change and its effect on the anticipated life-cycle of Product W33.

Year	1	2	3	4
Demand (units)	60,000	70,000	120,000	45,000

It is expected that all units of Product W33 produced will be sold, in line with the company's policy of keeping no inventory of finished goods. No terminal value or machinery scrap value is expected at the end of four years, when production of Product W33 is planned to end. For investment appraisal purposes, PV Co uses a nominal (money) discount rate of 10% per year and a target return on capital employed of 30% per year. Ignore taxation.

Required:

(a) Calculate the following values for the investment proposal:

- (i) net present value;** (5 marks)
- (ii) internal rate of return; and** (3 marks)
- (iii) return on capital employed (accounting rate of return) based on average investment.** (3 marks)

(b) Briefly discuss your findings in each section of (a) above and advise whether the investment proposal is financially acceptable. (4 marks)

(c) Discuss how the objectives of PV Co's stakeholders may be in conflict if the project is undertaken. (5 marks)

(20 marks)

32 DD Co has a dividend payout ratio of 40% and has maintained this payout ratio for several years. The current dividend per share of the company is \$0.50 per share and it expects that its next dividend per share, payable in one year's time, will be \$0.52 per share.

The capital structure of the company is as follows:

	\$m	\$m
Equity		
Ordinary shares (nominal value \$1 per share)	25	
Reserves	35	
	60	
Debt		
Bond A (nominal value \$100)	20	
Bond B (nominal value \$100)	10	
	30	
		90

Bond A will be redeemed at nominal in ten years' time and pays annual interest of 9%. The cost of debt of this bond is 9.83% per year. The current ex interest market price of the bond is \$95.08.

Bond B will be redeemed at nominal in four years' time and pays annual interest of 8%. The cost of debt of this bond is 7.82% per year. The current ex interest market price of the bond is \$102.01.

DD Co has a cost of equity of 12.4%. Ignore taxation.

Required:

(a) Calculate the following values for DD Co:

- (i) ex dividend share price, using the dividend growth model;
(3 marks)
- (ii) capital gearing (debt divided by debt plus equity) using market values; and
(2 marks)
- (iii) market value weighted average cost of capital.
(2 marks)

(b) Discuss whether a change in dividend policy will affect the share price of DD Co. (8 marks)

(c) Explain why DD Co's capital instruments have different levels of risk and return. (5 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

Answers

Section A

1 A

$$20 \times (1.035/1.015) = 20.39 \text{ Dinar per \$}$$

2 D

$$\text{Sensitivity to a change in sales volume} = 100 \times 1,300/24,550 = 5.3\%$$

3 A

Gurdip is basing her investment decisions on technical analysis, which means that she believes the stock market is not efficient at all, not even weak form efficient.

4 D

The statement about business risk is correct.

5 B

Increases in shareholder wealth will depend on increases in cash flow, rather than increases in earnings per share, i.e. increases in profit. If the financial rewards of directors are linked to increasing earnings per share, for example, through a performance-related reward scheme, there is an incentive to increasing short-term profit at the expense of longer growth in cash flows and hence shareholder wealth.

6 B

Both statements 1 and 3 are correct.

7 D

$$\text{Operational gearing} = \text{Contribution/PBIT} = [60,000 - (50,000 \times 0.6)]/10\text{m} = 3 \text{ times}$$

8 A

$$\text{Finance cost saving} = 13/365 \times \$20\text{m} \times 0.12 = \$85,479$$

9 D

All three statements concerning financial management are correct.

10 C

$$\begin{aligned} \text{The geometric average dividend growth rate is } & (36.0/31.1)^{1/3} - 1 = 5\% \\ \text{The ex div share price} & = (36.0 \times 1.05)/(0.12 - 0.05) = \$5.40 \end{aligned}$$

11 A

The statement refers to translation risk.

12 A

$$\text{The length of the operating cycle is } 52 + 42 + 30 - 66 + 45 = 103 \text{ days.}$$

13 C

Risk pooling and maturity transformation are always included in a list of benefits of financial intermediation.

14 B

Both statements 1 and 3 are correct.

15 C

The two targets relating predominantly to monetary policy are controlling the growth in the size of the money supply and keeping interest rates low (2 and 4).

Section B

16 D

The secured loan notes are safer than the bank loan, which is secured on a floating charge. The redeemable preference shares are above debt in the creditor hierarchy. Ordinary shares are higher in the creditor hierarchy than preference shares.

17 C

Future share price after seven years = $10.90 \times 1.06^7 = \$16.39$ per share
Conversion value of each loan note = $16.39 \times 8 = \$131.12$ per loan note

18 B

Market value of each loan note = $(8 \times 5.033) + (126.15 \times 0.547) = 40.26 + 69.00 = \109.26

19 C

An equity beta of greater than 1 indicates that the investment is more risky than the market as a whole.

20 B

It is correct that the price/earnings ratio is more suited to valuing the shares of listed companies, and it is also true that it is difficult to find a suitable price earnings ratio for the valuation.

21 A

Interest payment = 5,000,000 pesos
Six-month forward rate for buying pesos = 12.805 pesos per \$
Dollar cost of peso interest using forward market = $5,000,000/12.805 = \$390,472$

22 B

Exchange rates reflecting the different cost of living between two countries is stated by the theory of purchasing power parity.

The theory holds in the long term rather than the short term.

The forward rate is found by multiplying the spot rate by the ratio of the inflation rates of the two countries.

23 C

Dollars will be borrowed now for six months at $4.5 \times 6/12 = 2.25\%$
Pesos will be deposited now for six months at $7.5 \times 6/12 = 3.75\%$

24 C

Currency futures and swaps could both be used. As payment must be made on the date set by the bank, leading or lagging are not appropriate. Matching is also inappropriate as there are no peso income streams.

25 A

The correct procedure is to: Borrow euro now, convert the euro into dollars and place the dollars on deposit for three months, use the customer receipt to pay back the euro loan.

26 A

Deregulation to increase competition should mean managers act to reduce costs in order to be competitive. The need to reduce costs may mean that quality of products declines.

27 A

Since taxation and capital allowances are to be ignored, and where relevant all information relating to project 2 has already been adjusted to include future inflation, the correct discount rate to use here is the nominal before-tax weighted average cost of capital of 12%.

	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Maintenance costs		(25,000)	(29,000)	(32,000)	(35,000)
Investment and scrap	(200,000)				25,000
Net cash flow	(200,000)	(25,000)	(29,000)	(32,000)	10,000
Discount at 12%	1.000	0.893	0.797	0.712	0.636
Present values	<u>(200,000)</u>	<u>(22,325)</u>	<u>(23,113)</u>	<u>(22,784)</u>	<u>(6,360)</u>

Present value of cash flows (\$274,582)

Cumulative present value factor 3.037

Equivalent annual cost = $274,582/3.037 = \$90,412$

28 D

Both statements are false. The machine with the lowest equivalent annual cost should be purchased not the present value of future cash flows alone.

The lives of the two machines are different and the equivalent annual cost method allows this to be taken into consideration.

29 B

EV of year 3 cash flow = $(23,000 \times 0.2) + (24,000 \times 0.35) + (30,000 \times 0.45) = 26,500$

PV discounted at 12% = $26,500 \times 0.712 = 18,868$

30 C

The statement about uncertainty increasing with project life is true.

Section C

31 (a) (i) Calculation of NPV

Year	0	1	2	3	4
	\$	\$	\$	\$	\$
Investment	(2,000,000)				
Income		1,236,000	1,485,400	2,622,000	1,012,950
Operating costs		676,000	789,372	1,271,227	620,076
Net cash flow	(2,000,000)	560,000	696,028	1,350,773	392,874
Discount at 10%	1.000	0.909	0.826	0.751	0.683
Present values	(2,000,000)	509,040	574,919	1,014,430	268,333
Net present value:	\$366,722				

Workings

Calculation of income

Year	1	2	3	4
Inflated selling price (\$/unit)	20.60	21.22	21.85	22.51
Demand (units/year)	60,000	70,000	120,000	45,000
Income (\$/year)	1,236,000	1,485,400	2,622,000	1,012,950

Calculation of operating costs

Year	1	2	3	4
Inflated variable cost (\$/unit)	8.32	8.65	9.00	9.36
Demand (units/year)	60,000	70,000	120,000	45,000
Variable costs (\$/year)	499,200	605,500	1,080,000	421,200
Inflated fixed costs (\$/year)	176,800	183,872	191,227	198,876
Operating costs (\$/year)	676,000	789,372	1,271,227	620,076

Alternative calculation of operating costs

Year	1	2	3	4
Variable cost (\$/unit)	8	8	8	8
Demand (units/year)	60,000	70,000	120,000	45,000
Variable costs (\$/year)	480,000	560,000	960,000	360,000
Fixed costs (\$/year)	170,000	170,000	170,000	170,000
Operating costs (\$/year)	650,000	730,000	1,130,000	530,000
Inflated costs (\$/year)	676,000	789,568	1,271,096	620,025

(ii) Calculation of internal rate of return

Year	0	1	2	3	4
	\$	\$	\$	\$	\$
Net cash flow	(2,000,000)	560,000	696,028	1,350,773	392,874
Discount at 20%	1.000	0.833	0.694	0.579	0.482
Present values	(2,000,000)	466,480	483,043	782,098	189,365

Net present value: (\$79,014)

Internal rate of return = $10 + ((20 - 10) \times 366,722) / (366,722 + 79,014) = 10 + 8.2 = 18.2\%$

(iii) Calculation of return on capital employed

Total cash inflow = $560,000 + 696,028 + 1,350,773 + 392,874 = \$2,999,675$

Total depreciation and initial investment are same, as there is no scrap value.

Total accounting profit = $2,999,675 - 2,000,000 = \$999,675$

Average annual accounting profit = $999,675 / 4 = \$249,919$

Average investment = $2,000,000 / 2 = \$1,000,000$

Return on capital employed = $100 \times 249,919 / 1,000,000 = 25\%$

- (b) The investment proposal has a positive net present value (NPV) of \$366,722 and is therefore financially acceptable. The results of the other investment appraisal methods do not alter this financial acceptability, as the NPV decision rule will always offer the correct investment advice.

The internal rate of return (IRR) method also recommends accepting the investment proposal, since the IRR of 18.2% is greater than the 10% return required by PV Co. If the advice offered by the IRR method differed from that offered by the NPV method, the advice offered by the NPV method would be preferred.

The calculated return on capital employed of 25% is less than the target return of 30%, but as indicated earlier, the investment proposal is financially acceptable as it has a positive NPV. The reason why PV Co has a target return on capital employed of 30% should be investigated. This may be an out-of-date hurdle rate which has not been updated for changed economic circumstances.

- (c) As a large listed company, PV Co's primary financial objective is assumed to be the maximisation of shareholder wealth. In order to pursue this objective, PV Co should undertake projects, such as this one, which have a positive NPV and generate additional value for shareholders.

However, not all of PV Co's stakeholders have the same objectives and the acceptance of this project may create conflict between the different objectives.

Due to Product W33 being produced using an automated production process, it will not meet employees' objectives of continuity or security in their employment. It could also mean employees will be paid less than they currently earn. If this move is part of a longer-term move away from manual processes, it could also conflict with government objectives of having a low rate of unemployment.

The additional noise created by the production of Product W33 will affect the local community and may conflict with objectives relating to healthy living. This may also conflict with objectives from environmental pressure groups and government standards on noise levels as well.

- 32 (a) (i)** Dividend growth rate = $100 \times ((52/50) - 1) = 100 \times (1.04 - 1) = 4\%$ per year
 Share price using DGM = $(50 \times 1.04)/(0.124 - 0.04) = 52/0.84 = 61.9c$ or \$6.19
- (ii)** Number of ordinary shares = 25 million
 Market value of equity = $25m \times 6.19 = \$154.75$ million
 Market value of Bond A issue = $20m \times 95.08/100 = \$19.016m$
 Market value of Bond B issue = $10m \times 102.01/100 = \$10.201m$
 Market value of debt = \$29.217m
 Market value of capital employed = $154.75m + 29.217m = \$183.967m$
 Capital gearing = $100 \times 29.217/183.967 = 15.9\%$
- (iii)** WACC = $((12.4 \times 154.75) + (9.83 \times 19.016) + (7.82 \times 10.201))/183.967 = 11.9\%$

- (b) Miller and Modigliani showed that, in a perfect capital market, the value of a company depended on its investment decision alone, and not on its dividend or financing decisions. In such a market, a change in dividend policy by DD Co would not affect its share price or its market capitalisation. They showed that the value of a company was maximised if it invested in all projects with a positive net present value (its optimal investment schedule). The company could pay any level of dividend and if it had insufficient finance, make up the shortfall by issuing new equity. Since investors had perfect information, they were indifferent between dividends and capital gains. Shareholders who were unhappy with the level of dividend declared by a company could gain a 'home-made dividend' by selling some of their shares. This was possible since there are no transaction costs in a perfect capital market.

Against this view are several arguments for a link between dividend policy and share prices. For example, it has been argued that investors prefer certain dividends now rather than uncertain capital gains in the future (the 'bird-in-the-hand' argument).

It has also been argued that real-world capital markets are not perfect, but semi-strong form efficient. Since perfect information is therefore not available, it is possible for information asymmetry to exist between shareholders and the managers of a company. Dividend announcements may give new information to shareholders and as a result, in a semi-strong form efficient market, share prices may change. The size and direction of the share price change will depend on the difference between the dividend announcement and the expectations of shareholders. This is referred to as the 'signalling properties of dividends'.

It has been found that shareholders are attracted to particular companies as a result of being satisfied by their dividend policies. This is referred to as the 'clienteles effect'. A company with an established dividend policy is therefore likely to have an established dividend clientele. The existence of this dividend clientele implies that the share price may change if there is a change in the dividend policy of the company, as shareholders sell their shares in order to reinvest in another company with a more satisfactory dividend policy. In a perfect capital market, the existence of dividend clienteles is irrelevant, since substituting one company for another will not incur any transaction costs. Since real-world capital markets are not perfect, however, the existence of dividend clienteles suggests that if DD Co changes its dividend policy, its share price could be affected.

- (c) There is a trade-off between risk and return on DD's capital instruments. Investors in riskier assets require a higher return in compensation for this additional risk. In the case of ordinary shares, investors rank behind all other sources of finance in the event of a liquidation so are the most risky capital instrument to invest in. This is partly why DD Co's cost of equity is more expensive than its debt financing.

Similarly for debt financing, higher-risk borrowers must pay higher rates of interest on their borrowing to compensate lenders for the greater risk involved. DD Co has two bonds, with Bond A having the higher interest rate and therefore the higher risk. Since both bonds were issued at the same time, business risk is not a factor in the higher level of risk.

Instead, this additional risk is likely to be due to the fact that Bond A has a greater time until maturity, meaning that its cash flows are more uncertain than Bond B. In particular where interest rates are expected to increase in the future, longer-term debt will have a higher rate of interest to compensate investors for investing for a longer period.

A further factor is that the total nominal value (book value) of Bond A is twice as large as Bond B and therefore may be perceived to be riskier.

**Fundamentals Level – Skills Module, Paper F9
Financial Management**

Specimen Exam Marking Scheme

		<i>Marks</i>
Section A		
1–20	Two marks per question	30
Section B		
16–30	Two marks per question	30
Section C		
		<i>Maximum marks</i> <i>Marks awarded</i>
31 (a)	Inflated income	2
	Inflated operating costs	2
	Net present value	1
	Internal rate of return	3
	Return on capital employed	3
		<u>11</u>
(b)	Discussion of investment appraisal findings	3
	Advice on acceptability of project	1
		<u>4</u>
(c)	Maximisation of shareholder wealth	2
	Conflict from automation of production process	2
	Conflict from additional noise	1
		<u>5</u>
		<u>20</u>
32 (a)	Dividend growth rate	1
	Share price using dividend growth model	2
	Capital gearing	2
	Weighted average cost of capital	2
		<u>7</u>
(b)	Dividend irrelevance	4
	Dividend relevance	4
		<u>8</u>
(c)	Discussion of equity	1
	Debt and recognising business risk is not relevant	1
	Time until maturity of bonds	1
	Different value of bonds	1
	Other relevant discussion	1
		<u>5</u>
		<u>20</u>