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# ACCA – Paper F9
# Financial Management
# December 2015
# Revision Mock

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- Please complete your personal details above.
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# Marking Report

**Notice to Markers**

1 When commenting about the script performance, please ensure on individual questions and on overall assessment your comments cover areas of examination technique including:

| | | | |
|---|---|---|---|
| • Time management | • Handwriting | • Presentation and layout | • Use of English |
| • Points clearly and concisely made | • Relevance of answers to question | • Coverage and depth of answer | • Accuracy of calculations |
| • Calculations cross-referenced to workings | • All parts of the requirement attempted | • Length of answers equates to marks available | • Read the question carefully |

2 For each question, please provide suitable constructive comments

| Question Number | General Comments | Exam Technique Comments |
|---|---|---|
| | | |

**ACCA REVISION MOCK**

# Financial Management

## December 2015

Paper F9

**Time allowed**

Reading and planning: **15 minutes**

Writing: **3 hours**

**This paper is divided into two sections:**

**SECTION A – ALL TWENTY questions are compulsory and MUST be attempted**

**SECTION B – ALL FIVE questions are compulsory and MUST be attempted**

**ALL questions are compulsory and MUST be attempted**

**Formulae sheet, Present value and Annuity tables are on pages 3, 4 and 5.**

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

**During reading and planning time only the question paper may be annotated. You must NOT write in your answer booklet until instructed by the supervisor.**

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

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# FORMULAE SHEET

**Economic order quantity**

$$= \sqrt{\frac{2C_oD}{C_H}}$$

**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**

$$E(r)_j = R_f + \beta_j (E(r_m) - R_f)$$

**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**

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

**Gordon's growth approximation**

$$g = br_e$$

**The weighted average cost of capital**

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

**The Fisher formula**

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

**Purchasing power parity and interest rate parity**

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

## Present value table

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

Where r = discount rate

n = number of periods until payment

*Periods Discount rates (r)*

| (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

*Periods Discount rates (r)*

| (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** | 10.37 | 9.787 | 9.253 | 8.760 | 8.306 | 7.887 | 7.499 | 7.139 | 6.805 | 6.495 | **11** |
| **12** | 11.26 | 10.58 | 9.954 | 9.385 | 8.863 | 8.384 | 7.943 | 7.536 | 7.161 | 6.814 | **12** |
| **13** | 12.13 | 11.35 | 10.63 | 9.986 | 9.394 | 8.853 | 8.358 | 7.904 | 7.487 | 7.103 | **13** |
| **14** | 13.00 | 12.11 | 11.30 | 10.56 | 9.899 | 9.295 | 8.745 | 8.244 | 7.786 | 7.367 | **14** |
| **15** | 13.87 | 12.85 | 11.94 | 11.12 | 10.38 | 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** |

# SECTION A

**Each question is worth two marks.**

**1 In the context of Islamic finance, which of the following describes ijara?**

A A bond where the lender owns the underlying asset and shares in the risks and rewards of ownership.

B Equity where profits are shared according to a pre-agreed contract – dividends are not paid as such.

C Trade credit where a mark-up is agreed in advance for the convenience of paying later.

D A lease where the lessor retains ownership and the risk and rewards of ownership of the underlying asset.

**2** AD Co has budgeted that sales will be $500,000 in January 20X5, $702,600 in February, $352,000 in March and $525,500 in April. Half of sales will be credit sales. 80% of receivables are expected to pay in the month after sale, 15% in the second month after sale, while the remaining 5% are expected to be bad debts. Receivables who pay in the month after sale can claim a 3% early settlement discount.

**What level of sales receipts should be shown in the cash budget for March 20X5 (to the nearest $)?**

A $486,109

B $494,540

C $523,608

D $698,608

**3 Which of the following best defines the market capitalisation for a company's shares?**

A Current share price

B When a company issues new shares and thus increases its capital

C When a company is listed i.e. goes 'public'

D Share price x number of shares in issue

**4 Which of the following are money market instruments?**

1 Treasury bill

2 Commercial paper

3 Corporate bond

4 Certificate of deposit

A 1, 2 and 4 only

B 1 and 3 only

C 1, 3 and 4 only

D 1, 2, 3 and 4

**5 What would be the order of ranking, from the highest risk to the lowest risk, of the following from the investor's perspective?**

1 Treasury bill

2 Preference share

3 Corporate bond

4 Ordinary share

A 1, 3, 2, 4

B 1, 4, 2, 3

C 4, 2, 3, 1

D 4, 2, 1, 3

**6 Which of the following would be LEAST likely to arise from the introduction of a just-in-time inventory ordering system?**

A More frequent deliveries

B Less risk of inventory shortages

C Increased dependence on suppliers

D Lower inventory holding costs

**7** Pumpkin Ltd is considering purchasing a new machine at a cost of $110,400 that will be operated for four years, after which time it will be sold for an estimated $9,600. Pumpkin uses a straight line depreciation policy. Forecast operating profits to be generated by the machine are as follows:

| *Year* | $ |
|---|---|
| 1 | 39,600 |
| 2 | 19,600 |
| 3 | 22,400 |
| 4 | 32,400 |

**What is the payback period ('PP') and the average accounting rate of return (ARR), calculated as average annual profits divided by the average investment?**

A PP: 2.01 years ARR: 47.5%

B PP: 3.89 years ARR: 25.8%

C PP: 3.89 years AR: 47.5%

D PP: 2.01 years ARR: 25.8%

**8** Flamingo Co has a PE ratio of 15. Its competitor has an earnings yield of 10%.

**When comparing Flamingo Co to its competitor, which of the following is correct?**

| | *Earnings yield* | *PE ratio* |
|---|---|---|
| A | Higher | Higher |
| B | Higher | Lower |
| C | Lower | Higher |
| D | Lower | Lower |

**9** The current euro/US dollar exchange rate is €1 : $2. Alpha Co, a Eurozone company, makes a $1,200 sale to a US customer on credit. By the time the customer pays, the Euro has strengthened by 25%.

**What will the Euro receipt be?**

A €300

B €480

C €600

D €1,500

**10** Interest rates are currently 6%. Boxlite Co needs a $4.4 million six month loan in three months' time and buys a 3-9 Forward Rate Agreement (FRA) at 9%. When Boxlite Co signs the loan they agree to a rate of 8%.

**What is the payment or receipt Boxlite Co will make or receive under the FRA?**

A Boxlite Co pays the bank $44,000

B Boxlite Co pays the bank $22,000

C Boxlite Co receives $44,000 from the bank

D Boxlite Co receives $22,000 from the bank

**11** Saville Co has an interest cover greater than one and gearing (debt / debt + equity) of 50%.

**What will be the impact on interest cover and gearing of issuing shares to repay half the debt?**

| | *Interest cover* | *Gearing* |
|---|---|---|
| A | Rise | Fall |
| B | Rise | Rise |
| C | Fall | Fall |
| D | Fall | Rise |

**12** B Company is deciding whether to launch a new product. The initial outlay for the product is $60,000. The forecast possible annual cash inflows and their associated probabilities are shown below:

| | *Probability* | *Year 1* | *Year 2* | *Year 3* |
|---|---|---|---|---|
| Optimistic | 0.25 | $35,000 | $40,000 | $32,000 |
| Most likely | 0.55 | $20,000 | $26,000 | $28,000 |
| Pessimistic | 0.20 | $18,000 | $24,000 | $22,000 |

The company's cost of capital is 8% per annum.

Assume the cash inflows are received at the end of the year and that the cash inflows for each year are independent.

**The expected net present value for the product is:**

A ($500)

B $8,634

C $10,189

D $12,348

**13 According to Modigliani and Miller's Dividend Irrelevance theory, the process of 'manufacturing dividends' refers to which of the following?**

A Investing plans designed to create regular returns to shareholders

B Creative accounting to allow dividends to be paid

C Investors selling some shares to realise some capital gain

D Dividends from manufacturing businesses

**14 Which of the following is evidence that stock markets are strong form efficient?**

A Repeating patterns appear to exist

B Attempting to trade on consistently repeating patters is unlikely to work

C The majority of share price reaction to new news occurs when it is announced

D Share price reaction occurs before announcements are made public

**15** The following statements relate to fiscal policy and demand management.

1 If a government spends more by borrowing more, it should raise demand in the economy.

2 If demand in the economy is high then government borrowing should fall.

**Are the statements true or false?**

A Both statements are true

B Both statements are false

C Statement 1 is true and statement 2 is false

D Statement 2 is true and statement 1 is false

**16** **If a government has a macro-economic policy of reducing the overall level of economic activity, which of the following measures would not be consistent with such an objective?**

A Reducing public expenditure

B Raising interest rates

C Decreasing the exchange rate

D Increasing taxation

**17** Zulu is a listed company with a share price of $3.25 per share. It announces a 1-for-3 rights issue at $2.60 per share.

**What is the theoretical ex-rights price (to the nearest $)?**

A $2.44

B $3.09

C $3.50

D $4.12

**18** Orange Co has annual credit sales of $30 million and accounts receivable of $6 million. Working capital is financed by an overdraft at 10% interest per year. Assume 365 days in a year.

**What is the annual financial effect if management reduces the collection period to 60 days by offering an early settlement discount of 1.5% that all customers adopt?**

A $343,151

B $388,361

C $409,356

D $556,849

**19** **If the money discount rate is 12% and the real rate is 6%, what is the rate of inflation?**

A 5.66%

B 6.30%

C 18.60%

D 17.66%

**20** A hospital decides to increase the number of procedures performed each day and patient satisfaction suffers as a result.

**In terms of the 'value for money' framework', which one of the following statements is true?**

A Economy has increased but efficiency has decreased

B Efficiency has increased but effectiveness has decreased

C Economy has increased but effectiveness has decreased

D Economy has increased, but efficiency and effectiveness have decreased

# SECTION B

**ALL FIVE questions are compulsory and MUST be attempted**

**1** Staple Co is an unquoted company that needs to raise approximately $1 million to finance a major new investment. The directors are considering flotation on the Alternative Investment Market (AIM) as a way of raising the additional finance.

The following summarised financial data applies to Staple Co:

| | *20X1* | *20X2* |
|---|---|---|
| | $000 | $000 |
| Profit after tax | 427 | 538 |
| | | |
| Non-current assets: | | |
| Land and buildings | 850 | 850 |
| Plant and equipment (net) | 1,450 | 1,350 |
| | 2,300 | 2,200 |
| Current assets: | | |
| Inventory | 1,025 | 1,400 |
| | | |
| Total net assets | 2,325 | 2,575 |
| | | |
| Ordinary shares (25 cents) | 750 | 750 |

**Additional information**

(i) The average price earnings ratio of AIM listed companies in the same industry as Staple is 8.33.

(ii) The value of freehold land and buildings (never revalued) has fallen by 25% since purchased due to a recession. The replacement cost of plant and equipment is $1,500,000 but its current realisable value is $1,125,000. $180,000 of inventory is obsolete and could only be sold for $10,000 as scrap.

**Required:**

**Estimate the value of a share in Staple Co using:**

**(i) a suitable PE ratio**

**(ii) an asset based value.**

**Comment on the reliability of your estimates.**

**(Total: 10 marks)**

**2** NV Co, a quoted company whose home currency is the dollar, has cash balances of $23 million set aside for strategic acquisitions. The Board has suggested the purchase of S Co, a company based in the same industry but in a different country, whose home currency is the peso.

S Co is a subsidiary within a larger group (P Co) who are looking to dispose of S Co in order to focus on their core activities. P Co considers the subsidiary to be worth 500 million pesos in total.

Since NV Co does not currently have sufficient funds to cover the entire asking price immediately, the balance remaining, after the full use of the current cash reserves, will take the form of a loan, repayable in one year's time. As part of the agreement, interest will be charged on this loan at a rate of 4%, payable every six months.

The following further information is available:

| | *Per* $ |
|---|---|
| Spot rate: | pesos 12.500 – pesos 12.588 |
| Six-month forward rate: | pesos 12.606 – pesos 12.692 |

Interest rates that can be used by NV Co:

| | *Borrow* | *Deposit* |
|---|---|---|
| Peso interest rates: | 9.1% per year | 7.4% per year |
| Dollar interest rates: | 5.5% per year | 3.7% per year |

**Required:**

**(a) Calculate the value of loan, in pesos, that will be repayable in one year's time, together with the interest payment due after 6 and 12 months. (2 marks)**

**(b) Calculate whether a forward market hedge or a money market hedge should be used to hedge the interest payment in six months' time. Assume that NV Co would need to borrow any cash it uses in hedging exchange rate risk (4 marks)**

**(c) In order to repay the loan, NV Co will seek to raise additional debt finance. However, the Treasurer is concerned that interest rates may rise over the coming year. Identify and briefly explain three ways in which this interest rate risk could be hedged. (4 marks)**

**(Total: 10 marks)**

**3** Harry's Motors (HM) is a luxury car dealership. The company's opening bank balance at the beginning of January 2015 is $250,000 overdrawn, and the bank has warned HM, that if they are to remain overdrawn by the end of April, then action will be taken to recover any money outstanding. This is likely to result in bankruptcy.

Actual and forecasted sales volumes are as follows:

| *Month* | *Oct (actual)* | *Nov (actual)* | *Dec (actual)* | *Jan (forecast)* | *Feb (forecast)* | *Mar (forecast)* | *Apr (forecast)* |
|---|---|---|---|---|---|---|---|
| Units | 25 | 27 | 29 | 30 | 38 | 34 | 35 |

The average selling price per car is $50,000 with customers required to make a 20% deposit when placing an order, the remaining balance being payable in one month, however at present customers are in fact taking a further 3 months to pay, i.e. January sales are settled in April.

The contribution on each car is 20% of the selling price; the cost of each car must be paid to the car manufacturer within 2 months of the sale.

The sales team comprises 6 members who are paid a basic annual salary of $36,000 paid evenly across the year. An additional commission of 2% of the selling price is paid in the month of sale to the person responsible. All other operating costs are fixed and total $40,000 per month (this includes depreciation of $5,000).

**Required:**

**Prepare a cash budget for the period January through to April 2015, clearly detailing each item of income and expenditure for each month, together with the opening and closing cash balances, commenting on the company's position.**

**(Total: 10 marks)**

**4** Quadrant Ltd is a company that wishes to expand its operations. Six possible capital investments have been identified, but the company only has access to a total of $620,000. The projects are not divisible, and may not be postponed until a future period. After the projects end, it is unlikely that similar investment opportunities will occur.

Expected net cash flows (including residual values) are:

| *Project* | *Year* | | | | | |
|---|---|---|---|---|---|---|
| | *0* | *1* | *2* | *3* | *4* | *5* |
| A | (246,000) | 70,000 | 70,000 | 70,000 | 70,000 | 70,000 |
| B | (180,000) | 75,000 | 87,000 | 64,000 | | |
| C | (175,000) | 48,000 | 48,000 | 63,000 | 73,000 | |
| D | (180,000) | 62,000 | 62,000 | 62,000 | 62,000 | |
| E | (180,000) | 40,000 | 50,000 | 60,000 | 70,000 | 40,000 |
| F | (150,000) | 35,000 | 82,000 | 82,000 | | |

Projects A and E are mutually exclusive. All projects are believed to be of similar risk to the company's existing capital investments.

Any surplus funds may be invested in the money market to earn a return of 9% per year. The money market may be assumed to be an efficient market.

Quadrant's cost of capital is 12% per year.

**Required:**

**(a) Calculate the expected net present value for each project, and rank the projects. (7 marks)**

**(b) Calculate the profitability index for each project, and rank the projects. Explain briefly why the rankings differ from that in (a) above. (4 marks)**

**(c) Give reasoned advice to Quadrant Ltd recommending which projects should be selected. (4 marks)**

**(Total: 15 marks)**

**5** JSB Co is involved in the generation and supply of electricity. The directors have identified a number of positive NPV long term projects and are now considering how the additional finance needed should be raised.

Relevant financial information regarding JSB Co is as follows:

| | |
|---|---|
| Turnover | $320 million |
| Post tax earnings | $90 million |
| Gearing | 46% (debt/equity – based on market values) |
| Payout ratio | 30% |
| Ordinary share capital | $100 million |
| Current pre-tax debt cost | 6.0% |

The shares have a par value of 50c and are currently trading at $1.90. The earnings of the company have grown at 4% per annum in recent years. This growth rate is forecast to continue and is expected to be reflected in the share price. The current debt in issue is all irredeemable debt.

Other relevant information:

| | |
|---|---|
| Corporate tax rate | 20% |
| Industry average gearing | 58% |
| Industry average P/E ratio | 5.9 |

The sources of finance currently being considered include:

Equity – through a rights issue.

Convertible bonds – to be issued at par with a coupon rate of 5%. The bonds will be convertible into 40 ordinary shares in 10 years' time. Cash redemption would be at par. The expected cost of the convertible debentures is estimated to be 5%.

**Required:**

**(a) Calculate the current weighted average cost of capital for JSB Co. (5 marks)**

**(b) Outline the fundamental assumptions that are made whenever the weighted average cost of capital of a company is used as the discount rate in net present value calculations. (5 marks)**

**(c) Discuss the two financing alternatives. In so doing reference should be made to capital structure theories. Advise the directors with regard to the proposed new financing. (5 marks)**

**(Total: 15 marks)**