CHARTERED ACCOUNTANTS EXAMINATIONS

PROFESSIONAL LEVEL

P3: STRATEGIC FINANCIAL MANAGEMENT

FRIDAY 18 DECEMBER 2015

TOTAL MARKS – 100; TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS TO CANDIDATES

1. You have fifteen (15) minutes reading time. Use it to study the examination paper carefully so that you understand what to do in each question. You will be told when to start writing.

2. This paper is divided into TWO sections:
   Section A: One (1) compulsory question.
   Section B: Four (4) Optional Questions. Attempt any three (3) questions.

3. Enter your student number and your National Registration Card number on the front of the answer booklet. Your name must **NOT** appear anywhere on your answer booklet.

4. Do **NOT** write in pencil (except for graphs and diagrams).

5. **Cell Phones** are **NOT** allowed in the Examination Room.

6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.

7. All workings must be done in the answer booklet.

8. Formulae, Present Value, Annuity and normal distribution tables are attached at the end of the question paper.

9. Graph paper (if required) is provided at the end of the answer booklet.

SECTION A

Attempt this one compulsory question.

QUESTION ONE

Excellence Hotels Limited is a listed company which owns a chain of hotels around the country. The management of Excellence Hotels are investigating a K140 million potential investment in the real estate business which would be a diversification from its mainstream business. The investment would involve the construction and management of a Shopping Mall. An initial investment payment of K100 million is payable immediately and the reminder upon completion of the Shopping Mall at the end of year one. The operations would commence immediately after completion of the Mall. The Shopping Mall is expected to operate for a period of 13 years after which a major investment would be required. The residual value at the end of year 13 is projected to be K15 million after tax. The rental charges would be based on the floor area.

Type of floor area	Number of shops	Monthly rent per shop
DF2	40	K15,000
BF1	25	K150,000

It's expected that during the first year of operation the shop occupancy will be 85% for DF2 and 68% for BF1. During the subsequent years, the shop occupancy would be at full capacity. Annual operating costs are expected to be 40% of the annual revenue. Excellence Hotels Limited has a cash balance of K30 million which would be used towards financing the investment. The balance on the required amount of investment would be financed by a rights issue of K45 million and K65 million by long-term loans. Excellence Hotels Limited has access to a subsidised loan of K20 million out of the total K65 million from a development government agency. The subsidised loan would cost 2.5% below the company's normal cost of long term debt finance. Issue costs are estimated to be 1.2% for debt excluding subsidised loan and 3% for equity financing. These issue costs are tax allowable. The maturity period for debt finance is 13 years and interest is payable after operations begins.

The average equity beta in the real estate industry is 0.90 and average gearing of 60% equity and 40% debt by market value. The risk free rate is 6% per year and equity premium of 6.8% per year. The company's normal cost of long term debt finance is 9% per year.

The corporate tax rate is 30% per year.

Ignore inflation.

Required:

(a) Evaluate the proposed investment in the Real Estate Business using the Net Present Value method. Assume the cost of capital is 12% per year . (12 marks)

(b) Evaluate the proposed investment in the real estate business using the adjusted present value method. Use the risk free rate as a discount rate where applicable.

(18 marks)

(c) Assuming the role of a Financial Consultant, write a brief report to the management of Excellence Hotels Ltd, discussing the non-financial factors that should be considered before the decision to diversify into the real estate business is made. (10 marks)

[Total: 40 Marks]

SECTION B

Attempt any Three (3) questions out of four (4) in this section.

QUESTION TWO

College for Business Studies (CBS) was established in 1992 and has diversified its course portfolio tremendously. After consecutive years of growth in earnings, the shareholders are considering a public floatation of the company.

The company offers professional and academic courses in accountancy, Information communication technology, law and banking. Academic courses account for 75% of company revenue.

One of CBS's major competitors is ProCA, which only provides training in professional accountancy courses. ProCA is listed on the Lusaka stock exchange (LuSe) Alt-M, an investment market for small companies and has 5 million shares in issue with a market price of K1.20 each.

Additional information on the two companies for the year ended 31 December 2014 is as follows:

	CBS	ProCA
Net assets at fair value (K'million)	5.5	4.5
Earnings per share (ngwee)	10	5
Dividend per share (ngwee)	2.5	3
Five year historic earnings growth (annual)	25%	15%
cost of equity capital	20%	20%

CBS has 10 million, K0.50 shares in issue. Revenue growth in the academic segment of CBS's business is forecasted to be 20% per annum, while that of the professional courses segment is expected to grow at 10%.

Required:

(a) Discuss the benefits and drawbacks, to the shareholders of CBS, of a public listing on a stock exchange compared to private equity finance as a way of disposing their shares.

(10 marks)

(b) Assuming that a controlling stake in CBS is bought by a private equity fund at a premium of 40% of the spot price of the equity, estimate and justify the likely range of issue prices for its shares using the:

(i) Value of net assets
(ii) Dividend growth model, with the growth rate implied from the firm's re-investment.

(10 marks)
[Total: 20 Marks]

QUESTION THREE

Mocil Ltd is a small metal foundry owned by Mr. Muyangwa and family. Given the intense competition in the steel industry following the entry in Zambia of several large companies, the family has decided to sale the business to a management team.

After consultations with a financial advisor, Mr. Muyangwa has agreed with the management team on a valuation of K8.4 million for the business. An additional amount of K1.6 million will be required as working capital. Mr. Muyangwa has agreed to grant the company a short – term concessional loan equivalent to the company's working capital requirement once the business is sold.

The management team will raise K3.5 million in form of personal loans from a commercial bank by assigning their personal properties as collateral and have approached a venture capital fund to finance the balance of the purchase consideration. The venture capital fund will hold convertible debt amounting to K3.0 million and the balance in ordinary shares.

Required:

(a) Discuss four (4) circumstances in which a Management Buy - Out (MBO) might be an appropriate form of divestment from a business. (8 marks)

(b) Prepare an extract of the MBO's balance sheet reflecting the above transactions. (6 marks)

(c) Explain the factors the venture capital fund is likely to consider or impose when financing the MBO. (6 marks)
[Total: 20 Marks]

QUESTION FOUR

Philadelphia Equity Fund (PEF) is conducting a due diligence with the view of determining the potential bid price for the acquisition of Zambia Micro - Finance (ZMF) Ltd.

PEF is a New York Stock Exchange listed company financed entirely by equity, while ZMF is listed on the LuSE – Alternative Market (Alt – M). Shares for both companies are not very liquid.

The consensus among analysts in the market is that the current market value of ZMF's shares at 35% higher than the book value is correct. However, the general perception in the market is that the market price of PEF's shares is not quoted accurately. The market value of PEF's equity is $6,500,000.

The assets of both companies are stated at fair value below as extracted from the financial statements of both companies at the beginning of the current year:

	PEF	**ZMF**
	$'000	$'000
Assets less liabilities	4,000	6,000
Capital Employed	4,000	6,000
Equity	4,000	200
5-year floating rate debt (at yield rate plus 2%)		5,800
Total Capital Employed	**4,000**	**6,000**

ZMF's lenders have agreed that the floating rate debt of ZMF be transferred to the combined entity on the same terms. The current yield rate is 8%. The risk free rate of return can be regarded as equivalent to the yield rate.

The Philadelphia Equity Fund intends to use the Black-Sholes Option Pricing (BSOP) model to determine the value of the combined business entity and the maximum premium payable to Zambia Micro – Finance's shareholders. If the acquisition were to succeed, the volatility of the combined business assets would be 25%.

Required:

(i) Calculate the call value, maximum price and premium PEF may pay for ZMF using the BSOP model. (12 marks)

(ii) Explain four (4) risks PEF may face and how to it would mitigate them if it acquired ZMF. (4 marks)

(i) Describe any two (2) advantages and any two (2) disadvantages of financing an aquisition using cash from PEF's point of view. (4 marks)

[Total: 20 Marks]

QUESTION FIVE

(a) The Mega mart (Group) is a company headquartered in Zambia with subsidiaries in Congo DRC, Malawi, Zimbabwe, Angola and Tanzania. The company also has foreign currency transactions with two non-group companies in China and South Africa.

To minimize currency flows and in turn transaction costs of settlements both within the group and with non-group members, the company entered into a netting agreement with the non-group companies to clear indebtedness. Mega mart (Zambia) has been designated as the principal in the netting arrangement and that all settlements will be made in Zambian kwacha at the prevailing mid-market rates. The list of indebtedness at the year-end is as follows:

Owed by:	Owed to:	Million
Mega mart (Zambia)	Mega mart (Tanzania)	TZS 7.5
Mega mart (Congo DRC)	Mega mart (Zambia)	ZMW 6
Tronics (South Africa)	Fong kong (China)	CNY 6.5
Mega mart (Zimbabwe)	Mega mart (Zambia)	ZMW 8.2
Mega mart (Angola)	Mega mart (Zambia)	USD 5.0
Fong kong (China)	Mega mart (Congo DRC)	CDF 8.0
Mega mart (Angola)	Tronics (South Africa)	ZAR 14.0
Mega mart (Zambia)	Fong kong (China)	CNY 10

Mid-market rates at the year-end were as follows:

Currency	ZMW	USD	CNY	TZS	ZAR	CDF
1 ZMW =	1·0000	0.1429	0.8740	261.2993	1.7223	131.4369
1 USD =	7.0000	1·0000	6.1507	1,838.9200	12.0562	925.0000

Required:

Determine the currency transfers that will be required in the group and with non-group companies for settlement by Mega mart (Zambia). (12 marks)

(b) The Chief Executive Officer (CEO) of Mega mart (Group) has proposed to the company's board of directors that it should adopt a triple bottom line (TBL) reporting system in order to demonstrate its level of sustainable development. A number of Mega mart's competitors have already adopted TBL reporting and the CEO feels that it would be beneficial to the company. However, some of the board members are of the view that adopting TBL reporting would be costly and should therefore be avoided.

Required:

Discuss with the help of examples how producing a TBL report may help Mega mart's management improve its financial performance. (8 marks)

[Total: 20 Marks]

END OF PAPER

Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I}\right]^{\frac{1}{n}}\left(1 + r_e\right) - 1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2)e^{-rt}$$

Where:

$$d_1 = \frac{\ln(P_a / P_e) + (r + 0.5s^2)t}{s\sqrt{t}}$$

$$d_2 = d_1 - s\sqrt{t}$$

The Put Call Parity relationship

$$p = c - P_a + P_e e^{-rt}$$

Present Value Table

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

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

Discount rate (r)

Periods (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

Discount rate (r)

Periods (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

P3: STRATEGIC FINANCIAL MANAGEMENT

SUGGESTED SOLUTIONS

DECEMBER 2015 EXAMINATIONS

SOLUTION ONE

a) Net present value

Year	0	1	2	3 to 15	15
	K'm	K'm	K'm	K'm	K'm
Investment cost	(100)	(40)	-	-	15
Revenue (W.1)	-	-	36.72	52.2	-
Operational costs @40%	-	-	(14.69)	(20.88)	-
Cash flow before tax	**(100)**	**(40)**	**22.03**	**31.32**	**15**
Taxation @30%	-	-	(6.61)	(9.40)	15
Net cash flow	**(100)**	**(40)**	**15.42**	**21.92**	**15**
Discount @12%	1.000	0.893	0.797	4.226	0.183
Present values	(100)	(35.72)	12.29	92.63	2.75
NPV	**(27.95)**				

Based on the NPV computation, the proposed investment should not be undertaken because it gives a negative NPV of (K27.95m)

b) Adjusted present value

Year	0	1	2	3 to 15	15
	K'm	K'm	K'm	K'm	K'm
Net cash flow	(100)	(40)	15.42	21.92	15
Discount@11%	1.000	0.901	0.812	4.880	0.209
Present values	(100)	(36.04)	12.52	106.97	3.14
Base case NPV		**(13.41)**			
Financing side effects:					
PV of tax relief (W.4)		12.01			
PV of Subsidy (W.5)		1.49			
Issue costs (W.6)		(1.89)			
APV		**(1.8)**			

The APV is negative and therefore the proposed investment should not be undertaken because it will reduce the value to shareholders wealth.

Workings:

1. Revenue Year one of operations

DF2 = 40 x 85% x K15, 000 x 12 = K6, 120,000

BF1 = 25 x 68% x K150, 000 x 12 = K30, 600,000

Total K36, 720,000

Revenue after Year one of operations

DF2 = 40 x K15, 000 x 12 = K7, 200,000

BF1 = 25 x K150, 000 x 12 = K45, 000, 000

Total K52, 200,000

2. Annuity under NPV (12%)

Yr 3 to 14 = 6.628 – 2.402 = 4.226

Annuity under APV (10%)

Yr 3 to 14 = 7.367 – 2.487 = 4.880

3. Cost of equity

Ba = Be x Ve/Ve+Vd (1-t)

Ba = 0.90 x 0.6/0.6 + 0.4 (1-0.3)

Ba = 0.61

Ke = 6% + 0.61 (6.8%)

=10%

4. Tax relief

Normal loan = K65m - K20m = K45m

Interest payable = 9% x k45m = K4.05m

Tax relief = K4.05m x 30% = K1.22m per year

Subsidised loan = 6.5% x K20m = K1.3m

Tax relief = K1.3m x 30% = K0.39m

Total tax relief = K1.61m

Present value of tax relief = K1.61 x 7.462 = K12.01m

Annuity factor using risk free rate 6% =9.295 – 1.833 = 7.462

5. Subsidy

Savings on subsidised loan = 2.5% x K20m x 0.7 = K0.35m

Loss on tax relief = 2.5% x K20m x 30% = K0.15m per year

Net Savings = K0.35m – K0.15m = K0.2m

Present value = K0.2m x 7.462 = K1.49m

6. Issue costs:

Equity = 3% x K45m = K1.35m

Debt = 1.2% x K45m = K0.54m

Total K1.89m

c)

To : Excellence Hotel Management
From : Financial Consultant
Date : December, 201X
Subject : Report on the proposed Shopping Mall Investment

The report discusses non financial factors that could be considered when making the decision of investing in the shopping mall. The decision to invest in a major project must be evaluated using both financial and non-financial information. From the financial perspective, using the APV approach, the investment shows that it cannot add value to the shareholders wealth. Non-financial considerations will include the strategic fit of the investment with the company and its future plans.

Non- financial information

The methods used to evaluate the proposed investment from the financial perspective are subject to considerable inaccuracy. For instance the operating costs are assumed to be 40% of revenue throughout the investment life but prices and cost changes according to the economic conditions. The accuracy of the discount rate estimate is subjective considering it is based on industrial averages. The risk free rate is assumed to be constant although it might change over time.

Its might be important not to rely on a single estimate of net present value or Adjusted present value and Management should consider using Sensitivity analysis or simulations. This analysis could be used to ascertain the impact of changes of key cash flow variables

such as rent charges, shop occupancy on the NPV or APV. It might also be important to consider the real options.

The strategic importance of the investment must be established as it will influence to a large extent the final decision. Excellence Hotel's core competence is in the hotel industry and therefore, has no experience in running a real estate business. It might be better to consider first the opportunities within the hotel industry before diversifying into a foreign business. The hotel must also consider recruiting appropriate skilled labour force that can run the shopping mall. The hotel should also thoroughly investigate the competition in the real estate business and the likely reaction of competitors if it enters this new market. The Hotel should consider the possibility of acquiring an already established business for quicker entry into the market and also reducing competition in a way

Sign
Financial consultant

SOLUTION TWO

a)

The two major sources of large-scale equity finance are either through a public listing on a recognized stock exchange or through the private equity market. The former represents the traditional approach for firms who have grown beyond a certain size and where the owners wish to float, in whole or in part, their equity stake within the firm, or where they wish to gain access to new, large scale equity finance. The following may have to be fulfilled before a firm can raise capital on the Lusaka stock exchange (LuSE):

- Formalise the company's status as a public limited company (Plc) with rights to issue its shares to the public. This requires converting registration with PACRA to Plc.
- Registering the shares to be listed with the Securities and Exchange Commission.
- Fulfilling the listing requirements of LuSE which may entail the publication of a prospectus, which is an audited document containing, among other things, projections of future earnings and profitability.

Benefits of a public listing to CBS would be:

- Repositioning the company for growth and as a leading company
- Broaden its shareholding to include individual and institutional investors
- Provide an exit route for existing shareholders

Disadvantages of public listing include:

- The procedure for gaining a public listing is lengthy, costly and requires professional sponsorship from investment banking firms.
- a company will be exposed to hostile take overs by other companies
- regulatory oversight by LuSE and the Securities and Exchange Commission
- and be subjected to greater public scrutiny.
- LuSE requires that listed companies comply with the companies act and its code of corporate governance.

Private equity finance (PEF) is the name given to finance raised from investors organised through the mediation of a venture capital company or a private equity business. Benefits of PEF include:

- The fact that it does not impose the same regulatory regime as the public market.
- Transaction costs tend to be lower and there is evidence to suggest that private equity finance offers companies the ability to restructure and take long term decisions which may have adverse short-term effects.
- An investment in form of equity would increase the borrowing capacity of CBS.
- Private equity investors will normally bring some industry experience.

Disadvantages of PEF include:

- It can be an expensive source of finance
- An issue of shares may reduce control of the company, by existing shareholders
- Private equity investors usually have a short investment horizon

b)

i) Net assets value

At the lower end, the firm's net assets at fair value would be the issue price or realisable value of the equity between CBS and the PEF. This is <u>55 ngwee per share</u> which would represent the lower end of any negotiating range.

ii) Dividend valuation model

Estimating the share price using the dividend valuation model would place the share price at the upper end, using the latest DPS of 2.50 ngwee and the cost of equity capital of 20%.

CBS could potentially use three potential growth rates: the historic earnings growth, which at 25% is greater than the firm's equity cost of capital of 20% and is therefore not

sustainable in the long-term, the anticipated growth rate of the professional and academic segments weighted according to the firm's revenue from each [0·75 × 20% + 0·25 × 10% = 17.50%] and as requested by the question, the rate implied from the firm's re-investment as follows:

$g = br_e = (10-2.50)/10 \times 0.20 = \underline{15\%}$

The value of the firm using the growth model is:
$Po = Do(1+g)/(r_e - g) = 2.50(1+0.15)/(0.20 - 0.15) = \underline{57.50 \text{ ngwee per share}}$

The share price is a spot estimate of the value of a dividend stream in the hands of a minority investor. If the option to float is taken then a share price of 57.50 ngwee is achievable especially if a portion of the equity and effective control are retained.

However, since the shares have been sold to a private equity investor then it is appropriate to value the firm at a premium in order to take into account the benefits of control which can be substantial if the purchaser is able to generate synergies in terms of revenue enhancement, cost efficiency or more favourable access to capital market.

Since the PEF is acquiring a controlling stake, valuation of the shares at a premium of 40% using the fair value of net assets would give an issue price of 77ngwee [1.4 X 55] per share, while that using the dividend growth model would give a higher price of 80.50 ngwee [1.4 X 57.50], which is the recommended share price for CBS to commence negotiations with the private equity fund.

SOLUTION THREE

a) Circumstances MBO appropriate method of divestment

- Cash preferred to share exchange
- When it is necessary to avoid redundancies and preserve goodwill
- Instances where selling company to outsiders is time consuming
- Situations where management may recognize company potential but not outsiders
- Where selling a company to another company may disrupt employees

b)

Extract of Mocil Ltd Balance Sheet

	K'm
Non - current assets (Balancing Figure)	8.4
Cash	1.6
Total Assets	**10**

Equity (paid share capital):	
Management (42%)	3.5
Venture Capitalist (23%)	1.9
Convertible L.T debt	3.0

Current liabilities (working capital loan)	1.6
Total equity and Liabilities	**10**

c) <u>Factors the venture capital fund should consider or impose when financing the MBO</u>

- The values of the assets to secure the personal loans and convertible loans
- The business's competiveness and future prospects
- Managerial expertise and experience
- Board representation
- Performance targets and right to convert debt and assume control if they are not met
- Personal guarantees by members of the buy – out team

SOLUTION FOUR

(i)

Call value = $P_aN(d_1) – P_eN(d_2)e^{-rt}$

P_a = underling assets of the business = $10 million (fair values)

P_e = exercise price = $5.8 million x 1.10^{-5} = 5.8 x 0.621 = $3.6018 million

Risk free rate = 8%

Time to exercise = 5 years

Volatility = 0.20

$$d_1 = \frac{[\ln \frac{P_a}{P_e} + (r+0.5s^2)t}{s\sqrt{t}}$$

$$d_1 = \frac{[\ln \frac{10}{3.6018} + (0.08 + 0.5x0.25^2)x5]}{0.25\sqrt{5}}$$

$$d_1 = \frac{1.02 + 0.5563}{0.559}$$

d_1 = 2.820

$d_2 = d_1 - s\sqrt{t}$ = 2.820 – 0.559 = **2.261**

$N(d_1)$ = **0.9976**

$N(d_2)$ = **0.9881**

Call value = [$ 10m x 0.9976] – [$3.6018 x 0.9881] x $e^{-0.08x5}$

= $9.976m - $ 2.3856m = **$7.59m**

Maximum Price payable for ZMF's assets = $7.59m - $6.5m = **$1. 09m**

Market Value of ZMF = 200,000 x 1.35 = **$270,000**

Premium payable for ZMF by PEF = $1,090,000 - $270,000 = **$820,000**

(ii) Risks faced by PEF

- Political risks – i.e. nationalization, developing measures to cope with political risk i.e. insurance.
- Economic risks - for example changes in exchange controls could restrict capital flows
- Regulatory risk – could arise from changes in regulations. These risks could be managed by maintaining contact with regulators through associations
- Fiscal risk – The Zambian government might introduce fiscal measures such as increased tax rates. PEF could enter into an investment protection agreement to mitigate these risks.

(iii) Advantages

- No dilution of control if shares not issued to target company
- Suitable for small acquisitions
- Relatively cheaper mode of financing acquisition

Disadvantages

- Cash – outflow can hamper liquidity
- Issue of debt not possible for a highly geared company

SOLUTION FIVE

a) The currency transfers required can be determined in a number of ways, one of which is a transactions matrix and the other is a route minimisation algorithm.

Given that all balances are to be cleared through the head office in Zambia, all indebtedness between all parties should be converted to Zambian kwacha using the specified exchange rates:

Owed by:	Owed to:	Million	Rates	ZMW('000)
Mega mart (Zambia)	Mega mart (Tanzania)	TZS 7·5	261.2993	28.703
Mega mart (Congo DRC)	Mega mart (Zambia)	ZMW 6	1.0000	6,000
Tronics (South Africa)	Fong kong (China)	CNY 6.5	0.8740	7,437.071
Mega mart (Zimbabwe)	Mega mart (Zambia)	ZMW 8·2	1.0000	8,200
Mega mart (Angola)	Mega mart (Zambia)	USD 5·0	7.0000	35,000
Fong kong (China)	Mega mart (Congo DRC)	CDF 8.0	131.4369	60.866
Mega mart (Angola)	Tronics (South Africa)	ZAR 14·0	1.7223	8,128.665
Mega mart (Zambia)	Fong kong (China)	CNY 10	0.8740	11,441.648

Transactions Matrix

		Owed to (ZMW'000):							
		Zambia	Congo	SA	China	Tanzania	Zimbabwe	Angola	
Owed By:	Zambia	-			11,442	29			11,470
	Congo	6,000	-						6,000
	SA			-	7,437				7,437
	Zimbabwe	8,200							8,200
	Angola	35,000		8,129					43,129
	China		61		-				61
	Tanzania					-			
	Owed to:	49,200	61	8,129	18,879	29	-	-	
	Owed by:	(11,470)	(6,000)	(7,437)	(61)	-	(8,200)	(43,129)	
	Net	37,730	(5,939)	692	18,818	29	(8,200)	(43,129)	

Mega mart (Zambia) will receive K5,939,000, K8,200,000 and K43,129,000 from its subsidiaries in Congo DRC, Zimbabwe and Angola respectively and pay K692,000, K18,818,000 and K29,000 to the non-group companies in South Africa and China, and its subsidiary in Tanzania respectively

b)

A triple bottom line (TBL) reporting is defined as corporate communication with stakeholders in order to provide its performance in terms of its economic or financial impact, its impact on environmental quality and its impact on social performance. The principle of TBL reporting is that a corporation's true performance must be measured in terms of a balance between economic (profits), environmental (planet) and social (people) factors; with no one factor being achieved at the expense of the others.

A corporation's sustainable development is about how these three factors can grow and be combined so that a corporation is building a reputation as being a good citizen. The contention is that a corporation that accommodates all the three factors will enhance shareholder value by addressing the needs of its stakeholders. TBL reporting would be a quantitative summary of mega mart's performance in the three factors over a previous time period, say a year. Therefore TBL provides the measurement tool to assess a corporation's performance against its objectives.

Each factor can be assessed or measured using a number of proxies. The economic impact can be measured by considering proxies such as operating profits, dependence on imports and the extent to which the local economy is supported by purchasing locally produced goods and services by mega mart. Social impact can be measured by considering proxies such as working conditions, fair pay, and maintenance of appropriate food standards. Environmental impact can be measured by considering proxies such as emissions to air, use of energy and water, investments in renewable resources.

An assessment by the management of a corporation's performance in the three factors – economic, environmental and social, that make up the TBL report will result in an improvement in the financial position, if long-term shareholder value is increased as a result of the report being produced.

The benefits that accrue from the assessment and production of a TBL report must exceed the costs of undertaking the report. It may be the case that the costs of producing the report are relatively easy to measure but the financial benefits may be more difficult to measure and may take place over a longer time period. Some examples of the ways in which mega mart may benefit financially include:

Focusing on and reporting the company's environmental and social impact may build and enhance its brand reputation. Increasing reputation may increase the long-term revenue of the company. On the other hand, if the company does not follow (or even try to lead) its competitors in this area then the loss of reputation may damage its revenues stream and lower its corporate value.

Consideration and improvement of working standards and consulting employees as part of this process, when assessing social factors, may help in retaining and attracting high performing, high caliber employees. This will benefit mega mart in the long term because of increased employee motivation and performance. Employee involvement may also help reduce the costs related to the company's risk management activity and thus have a direct cost reduction impact.

Improvement of due diligence procedures as part of the economic factor assessment may help limit direct legal costs and indirect costs incurred in maintaining stakeholder relationships, communication with stakeholders and thus improving the quality of reporting may result in improvements in governance procedures. This in turn would lead to a reduction of the costs related to risk management.

Assessing and improving the environmental impact in the TBL report may result in the company making efforts to reduce its carbon footprint by placing less reliance on imports and developing local expertise in producing the inputs it needs. This may reduce the risk of supplier related problems and alleviate problems related to possible inventory shortfalls. It may also Improve its reputation, leading to long-term financial benefits.

Monitoring and reporting on the performance of employees and managers as part of the assessment of economic and social factors may help identify areas where work can be done more effectively and efficiently. It may help managers reconsider business processes and identify areas where improvements can be made.

The result of the assessment required in producing the TBL report and comparing the corporation's progress in relation to its aim of becoming a sustainable organisation will create opportunities which senior managers can develop into financial benefits. The extent to which these opportunities are successfully developed depends on the quality of assessment and the organisation's ability to enable change to happen.

END OF SOLUTIONS