

QUESTION 1

It is now 2005 Cebi Ltd is evaluating two projects. The first involves a E4.725 million expenditure on new machinery to expand the company's existing operations in the textile industry. The second is a diversification into the packaging industry, and will cost E9.275 million.

Cebi summarised balanced sheet and those of Loncwala and Andile Ltd two quoted companies in the packaging industry, are shown below:

	Cebi Ltd Em	Loncwala Ltd Em	Andile Ltd Em
Fixed Assets	96	42	76
Current Assets	95	82	65
Less current liabilities	<u>(70)</u>	<u>(72)</u>	<u>(48)</u>
	<u>121</u>	<u>52</u>	<u>93</u>
Financed by:			
Ordinary shares ¹	15	10	30
Reserves	50	27	50
Medium and long-term loans ²	<u>56</u>	<u>15</u>	<u>13</u>
	<u>121</u>	<u>52</u>	<u>93</u>
Ordinary share price (cents)	380	180	230
Debenture price (E)	104	112	-
Equity beta	1.2	1.3	1.2

1. Cebi and Andile 50 cents par value, Loncwala 25 cents par value.
2. Cebi 12% debentures 2011 - 2013, Loncwala 14% debentures 2016, Andile medium-term bank loan.

Cebi proposes to finance the expansion of textile operations with a E4.725 million 11% loan stock issue, and the packaging investment with a E9.275 million rights issue at a discount of 10% on the current market price. Issue costs may be ignored.

Cebi's Managers are proposing to use a discount rate of 15% per year to evaluate each of these projects.

The risk free rate of interest is estimated to be 6% per year and the market return 14% per year. Company income tax is at a rate of 33% per year.

Required

- (a) Determine whether 15% per year is an appropriate discount rate to use for each of these projects. Explain your answer and state clearly any assumptions that you make. (19 Marks)
- (b) Cebi's Marketing Director suggests that it is incorrect to use the same discount rate each year for the investment in packaging as the early stages of the investment are more risky, and should be discounted at a higher rate. Another Board Member disagrees saying that more distant cash flows are riskier and should be discounted at a higher rate. Discuss the validity of the views of each of the Directors. (6 Marks)

(Total: 25 Marks)

QUESTION 2

The Directors of Makara Ltd, a large conglomerate, are considering the acquisition of the entire share capital of Maseru Ltd, which manufactures a range of engineering machinery. Neither company has any long-term debt capital. The Directors of Makara Ltd believe that if Maseru is taken over, the business risk of Makara will not be affected.

The accounting reference date of Maseru is 31 March. Its balance sheet as on 31 March 2005 is expected to be as follows:

	E	E
Fixed assets (net of depreciation)		651,600
Current assets :		
Stock and work in progress	515,900	
Debtors	745,000	
Bank balances	<u>158,100</u>	
		<u>1,419,000</u>
		2,070,600
Current liabilities:		
Creditors	753,600	
Bank overdraft	<u>862,900</u>	
		<u>1,616,500</u>
		<u>454,100</u>
Capital and reserves:		
Issued ordinary shares of E1 each		50,000
Distributable reserves		<u>404,000</u>
		<u>454,100</u>

Maseru's summarised financial record for the five years to 31 March, 2005 is as follows:

Year ended 31 March	2001	2002	2003	2004	2005 (Estimated)
	E	E	E	E	E
Profit before extraordinary items	30,400	69,000	49,400	48,200	53,200
Extraordinary items	<u>2,900</u>	<u>(2,200)</u>	<u>(6,100)</u>	<u>(9,800)</u>	<u>(1,000)</u>
Profit after extraordinary items	33,300	66,800	43,300	38,400	52,200
Less dividends	<u>20,500</u>	<u>22,600</u>	<u>25,000</u>	<u>25,000</u>	<u>25,000</u>
Added to reserves	<u>12,800</u>	<u>44,200</u>	<u>18,300</u>	<u>13,400</u>	<u>27,200</u>

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The following additional information is available:

- (a) There have been no changes in the issued share capital of Maseru Ltd during the past five years.
- (b) The estimated values of Maseru fixed assets and stocks and work in progress as on 31 March, 2005 are as follows:

	Replacement cost E	Realisable value E
Fixed assets	725,000	450,000
Stock and work in progress	550,000	570,000

- (c) It is expected that 2% of Maseru's debtors at 31 March, 2005 will be uncollectable.
- (d) The cost of capital of Makara Ltd is 9%. The Directors of Maseru Ltd estimate that the shareholders of Maseru require a minimum return of 12% per annum from their investment in the company.
- (e) The current P/E ratio of Makara Ltd is 12. Quoted companies with business activities and profitability similar to those of Maseru have P/E ratios of approximately 10, although these companies tend to be much larger than Maseru.

Required:

- (a) Estimate the value of the total equity of Maseru Ltd as on 31 March, 2005 using each of the following bases:
- (i) balance sheet value;
 - (ii) replacement cost;
 - (iii) realisable value;
 - (iv) the Gordon dividend growth model;
 - (v) the P/E ratio model
- (15 Marks)
- (b) Explain the role and limitations of each of the above five valuation bases in the process by which a price might be agreed for the purchase by Makara Ltd of the total equity capital of Maseru Ltd. (6 Marks)
- (c) State and justify briefly the appropriate range within which the purchase price is likely to be agreed. (4 Marks)

(Total: 25 Marks)

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Mongi Ltd is contemplating a bid for the share capital of SCM Ltd. The following statistics are available.

	Mongi Ltd	SCM Ltd
Number of shares	14 million	45 million
Share price	840 cents	166 cents
Latest equity earnings	E11,850,000	E 9,337,500

Mongi Ltd's plan is to reduce the scale of SCM Ltd operations by selling off a division which accounts for E1,500,000 of SCM Ltd's latest earnings, as indicated above. The estimated selling price for the division is E10.2 million.

Earnings in SCM Ltd's remaining operations could be increased by an estimated 20% on a permanent basis by the introduction of better management and financial controls. Mongi Ltd does not anticipate any alteration to SCM Ltd's price/earnings multiple as a result of these improvements in earnings.

To avoid duplication, some of Mongi Ltd's own property could be disposed of at an estimated price of E16 million.

Rationalisation costs are estimated at E4.5 million.

Required:

- Calculate the effect on the current share price of each company, all other things being equal, of a two for nine share offer by Mongi Ltd, assuming that Mongi Ltd's estimates are in line with those of the market. (10 Marks)
- Offer a rational explanation of why the market might react to the bid by valuing SCM Ltd's shares at (i) higher figure and (ii) a lower figure than that indicated by Mongi Ltd's offer even though the offer is in line with market estimates of the potential merger synergy. (6 Marks)
- Assume that Mongi Ltd is proposing to offer SCM Ltd shareholders the choice of the two for nine share exchange or a cash alternative.

Advise Mongi Ltd whether the cash alternative should be more or less than the current value of the share exchange, giving your reasons. (4 Marks)

(Total: 20 Marks)

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QUESTION 4

A Swazi company is planning to set up a subsidiary company in Ruritania at the start of 2005 in order to invest in a project which is expected to last for four years.

You are given the following information concerning the project.

- (a) Expected exchange rates between the Lilangeni and Ruritanian mark (E:Rm)

Start	2005		2006		2007		2008	
	Average	End	Average	End	Average	End	Average	End
1:5	1:6	1:7	1:8	1:9	1:10	1:11	1:12	1:13

- (b) The expected profits from the project in Rm (000s):

2005 : 21,000	2006 : 22,500	2007 : 22,000	2008 : 26,000
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- (c) The project has an immediate cost of Rm50 million and will require further investment of Rm 18 million at the end of 2006. At the end of 2008 the assets of the subsidiary will have a break-up value of Rm13 million.

- (d) The entire capital cost of the project consists of the following machinery supplied by the parent company:

	Em	
New machinery	6	
Surplus machinery	2	replacement cost E2.3m (scrap value E200,000)
Machinery currently in use	2	replacement cost E2.5m (scrap value E400,000)

The machinery supplied at the end of 2006 will be surplus to requirements and will have a scrap value of E500,000 and a replacement cost of E3m.

- (e) Three-quarters of the profits may be paid out as a dividend on the last day of the year in which they are earned. The remainder must be invested in interest-free Ruritanian government stock, which may be redeemed at par at the end of the project. There are no other restrictions on the transfer of currency.

(f) The profits are calculated after the following charges (Rm'000s)

	2005	2006	2007	2008
Purchases from parent company	12,000	16,000	24,000	30,000
Depreciation	10,000	10,000	10,000	10,000
Management fee	7,000	6,300	6,600	6,500
Royalties	7,000	9,000	11,000	13,000

The management fee and the royalties are paid to the parent company on the last day of the year.

The actual cost to the parent company of providing the management services is E100,000 per annum. The goods sold to the subsidiary are supplied evenly throughout the year, for immediate cash. The cost structure for these goods is as follows:

	%
Labour	20
Materials	40
Depreciation	10
Fixed overheads	15
Profit margin	<u>15</u>
	<u>100</u>

(g) The cost of capital of the parent company is 20%.

Required:

(a) Prepare a report which explains whether the project is worthwhile from the viewpoint of the Swazi company and discuss the other factors which should be taken into account before arriving at a final decision.

Ignore Taxation.

(Total : 30 Marks)

Present Value Table

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

n = number of periods until payment

Periods (n)	Discount rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239

Periods (n)	Discount rates (r)									
	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065

Annuity Table

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

n = number of periods

Years (n)	Interest rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.37	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.26	10.58	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.13	11.35	10.63	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.00	12.11	11.30	10.56	9.899	9.295	8.745	8.244	7.786	7.367
15	13.87	12.85	11.94	11.12	10.38	9.712	9.108	8.559	8.061	7.606

Years (n)	Interest rates (r)									
	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.586	4.527
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675