FINAL EXAMINATION

GROUP IV

(SYLLABUS 2012)

SUGGESTED ANSWERS TO QUESTIONS

DECEMBER 2014

Paper- 20 : FINANCIAL ANALYSIS & BUSINESS VALUATION

Time Allowed : 3 Hours **Full Marks : 100**

The figures in the margin on the right side indicate full marks.

SECTION A

In this section answer No. 1(a) and 1 (b) which is compulsory and any two parts out of Question No. 2(a), 2 (b) and 2(c).

1. (a) Following information has been extracted from the annual report of a well established Indian biscuit manufacturer:

Balance Sheet as at March 31, (₹ in Crores)

Particulars	2013	2014
EQUITY AND LIABILITIES		
Shareholder's Funds:		
Share Capital (Face Value— ₹2)	23.89	23.91
Reserves and Surplus	496.15	612.50
	520.04	636.41
Non-Current Liabilities (Bank Loans and Debentures)	173.04	223.04
Current Liabilities		
Short-term borrowings	—	145.08
Trade Payables	336.20	333.61
Other Current Liabilities (Interest Payable)	518.26	210.49
Short-Term Provisions (Dividend Payable) (Amount of Dividend Proposed for the year including Dividend Distribution Tax)	124.80	134.40
	979.26	823.58
Total Equity and Liabilities	1,672.34	1,683.03
ASSETS		
Non-Current Assets:		
Tangible and Intangible Assets	1,065.11	1,140.11
Less: Depreciation & Amortization	250.75	297.58
	814.36	842.53
Current Assets:		
Current Investments	210.54	163.54
Inventories	382.28	338.57
Trade Receivables	52.14	77.12
Cash and Bank Balances	30.94	64.48
Short Term Loans and Advances	182.08	196.79

	857.98	840.50
Total Assets	1672.34	1,683.03

Statements of Profit and Loss for the ending on March 31,

(₹ in Crores)

Particulars	2013	2014
Revenue from operations	5,007.22	5,635.21
Other Income (Gain on the Sale of Old Machine)	25.50	35.75
Total Income	5,032.72	5,670.96
Expenses		
• Raw materials including packaging materials consumed	2,655.01	2,890.42
• Purchase of stock-in-trade	529.53	638.18
• Changes in inventories of finished goods, work-in-progress and stock-in-trade	(4.79)	(10.16)
• Employee benefits expenses	145.87	143.50
• Interest Costs	38.07	37.74
• Depreciation and Amortization expense	47.32	57.08
• Other expenses	1,369.34	1,582.02
• Tax expenses	65.63	98.31
Total Expenses	4,845.98	5,437.09
Profit After Tax	186.74	233.87

Notes:

(i) The Company has paid bank loan of ₹50 crores during the year 2013 – 14 and raised necessary amount by issuing Debentures. After repaying the banks loan, the proceeds were used to buy the fixed assets.

(ii) Fixed Assets sold during F. Y. 2013 – 14 were having original cost of ₹25 crores with accumulated depreciation of ₹10.75 crores.

Required:

I. Calculate Cash from Operating Activities for the F. Y. 2013 – 14. 2

II. Calculate Cash from Investing Activities for the F. Y. 2013 – 14. 2

III. Calculate Cash from Financing Activities for the F. Y. 2013 – 14. 2

IV. Calculate Free Cash Flows to the Company for the F. Y. 2013 – 14. 2

V. Calculate Free Cash Flows to equity owners for the F. Y. 2013 – 14. 2

1. (b) The following financial data has been extracted from the Annual report 2013 – 14 of XYZ Ltd.

Balance sheet of XYZ. Ltd. as at March 31, **(₹ in crores)**

Particulars	2013	2014
EQUITY AND LIABILITIES		
Shareholder's Funds:		
Share Capital	638.07	638.07
Reserves and Surplus	18,496.77	18,538.58
	19,134.84	19,176.65
Non-Current Liabilities:		
Long-Term Borrowings	8,051.78	9,746.45
Deferred Tax Liabilities (Net)	1,963.91	43.11
Other Long-Term Liabilities	1,238.44	1,155.48
Long-Term Provisions	691.19	815.20
	11,945.32	11,760.24
Current Liabilities:		
Short-Term Borrowings	6,216.91	4,769.08

Trade Payables	8,455.02	9,672.36
Other Current Liabilities	4,923.10	2,463.18
Short-Term Provisions	1,509.58	1,892.91
	21,104.61	18,797.53
TOTAL EQUITY AND LIABILITIES	52,184.77	49,734.42
Assets		
Non-Current Assets:		
Fixed Assets:		
Tangible Assets	12,287.71	12,133.50
Intangible Assets	3,168.03	3,107.07
Capital Work-in-Progress	1,507.84	1,716.85
Intangible Assets under development	3,244.96	4,638.22
	20,208.54	21,595.64
Investments:		
Non-Current Investments	18,171.71	18,357.57
Long Term Loans and Advances	3,575.24	2,918.30
Other Non-Current Assets	94.32	123.85
	21,841.27	21,399.72
Current Assets:		
Current Investments	1,762.68	100.85
Inventories	4,455.03	3,862.53
Trade Receivables	1,818.04	1,216.70
Cash and Bank Balances	462.86	226.15
Short Term Loans and Advances	1,532.09	1,223.77
Other Current Assets	104.26	109.06
	10,134.96	6,739.06
TOTAL ASSETS	52,184.77	49,734.42

STATEMENT OF Profit and Loss of XYZ Ltd. for the year ending on March 31, (₹ in crores)

Particulars	2013	2014
REVENUE FROM OPERATIONS	52,319.73	41,758.00
Less: Excise duty	(4,554.01)	(3,469.89)
	47,765.72	38,288.11
OTHER INCOME	2,088.20	3,833.03
TOTAL REVENUE	49,853.92	42,121.14
EXPENSES:		
(i) Cost of materials consumed	27,244.28	20,492.87
(ii) Purchase of products for sale	5,864.45	5,049.82
(iii) Changes in inventories of finished goods, work-in-progress and products for sale	(143.60)	371.72
(iv) Employee cost/benefits expense	3,253.20	3,417.55
(v) Finance cost	1,387.76	1,337.52
(vi) Depreciation and amortization expense	1,817.62	2,070.30
(vii) Product development expense/Engineering expense	425.76	428.74
(viii) Other expense	7,783.32	6,987.53
(ix) Expenditure transferred to capital and other accounts	(953.80)	(1,009.11)
TOTAL EXPENSES	46,678.99	39,146.94
PROFIT/(LOSS) BEFORE TAX	3,174.93	2,974.20
Tax (net)	1,466.88	1,360.32
PROFIT AFTER TAX FOR THE YEAR FROM CONTINUING OPERATIONS	1,708.05	1,613.88

Additional Information:

- **The Equity Capital of the Company consists of Ordinary shares and 'A' Ordinary share, both of ₹5 each.**
- **The holders of 'A' Ordinary shares shall be entitled to receive dividend for each financial year at five percentage point more than the aggregate rate of dividend declared on Ordinary shares for that financial year.**
- **In respect of every Ordinary shares (whether fully or partly paid), voting rights shall be in the same proportion as the capital paid up on such Ordinary share bears to the total paid up Ordinary share capital of the Company. In case of every 'A' Ordinary share, if any resolution is put to vote on a poll or by postal ballot at any general meeting of shareholders, the holder shall be entitled to one vote for every ten 'A' Ordinary shares held as per the terms of its issue and if a resolution is put to vote on a show of hands, the holder of 'A' Ordinary shares shall be entitled to the same number of votes as available to holders of Ordinary shares.**
- **The number of Ordinary shares and of 'A' Ordinary shares (in Crores) are 107.41 and 20.20 respectively.**
- **The Company has declared 75% dividend on Ordinary Shares for the F.Y. 2012-13 and 100% for the F.Y. 2013-14.**

On the basis of the above information, you are required to answer the following:

(i) Determine Basic Earning Per Share (EPS) of both the type of shares for the F.Y. 2012-13 and for the F.Y. 2013-14. (Ignore Dividend Distribution Tax) + 6

(ii) Determine the P/E Ratios of Ordinary Shares as on March 31, 2013 and March 31, 2014 using the EPS calculated in (i) above and prices of ₹124 and ₹118 per share respectively. 2

(iii) Determine the Price to Book Value per share of Ordinary Shares as on March 31, 2013 and March 31, 2014 for the prices in (ii) above. 2

Answer:

1. (a) Calculation of Cash From Operating Activities for the year 2013-14

	(₹ in crores)
Profit Before Tax	332.18
Adjustments for	
Gain on the Sale of Old Machine	(35.75)
Interest Costs	37.74
Depreciation and Amortization expenses	57.08
Operating Profit before Working Capital changes	391.25
Adjustments for Changes in Working Capital	43.71
Inventories	(24.98)
Trade Receivables	(14.71)
Short Term Loans and Advances	145.08
Short-term borrowings	(2.59)
Trade Payables	(307.77)
Other Current Liabilities	(161.26)
Cash Flow from Operating Activities before Tax	229.99
Tax Expense	(98.31)
Net Cash From Operating Activities	**131.68**

Calculation of Cash From Investing Activities for the year 2013-14	**(₹ in crores)**
Sale of Assets	50.00
Purchase of Assets	(100.00)
Sale of Current Investment	47.00

Net Cash Invested in Investing Activities	**(03.00)**

Calculation of Cash From Financing Activities for the year 2013-14	
	(₹ in crores)
Issue of Debentures	100.00
Interest Costs	(37.74)
Dividend Paid during the year	(124.80)
Repayment of Bank loan	(50.00)
Net Cash from Financing Activities	**(112.54)**

Calculation of Free Cash Flows to the Company or Firm	
	(₹ in crores)
Net Cash From Operating Activities	131.68
Net Cash Invested in Investing Activities	(03.00)
Free Cash Flows to the Company	128.68

Calculation of Free Cash Flows to the Equity Owners

	(₹ in crores)
Free Cash Flows to the Company	128.68
Interest paid	(37.74)
Issue of debenture	100.00
Repayment of Bonus loan	(50)
Free Cash Flow to Equity Owner	140.94

Notes & Assumptions:

- We are assuming that Current Investments are the result of Investment Decisions of a Company and not a part of Operating Activities and Working Capital Decisions. Consequently, changes in it are taken as part of Investing Activities.
- Interest Costs given is presumed to be paid in cash during the year.
- Calculation of Cash Flows from the sale of the old Assets: (₹ in crores)

Original Cost of the Assets	₹ 25.00
Less: Accumulated Depreciation	₹ 10.75
Book Value	₹ 14.25
Plus Gain on the Sale of old Assets	₹ 37.75
Cash Flow from the Sale of Old Assets	**₹ 50.00**

- Calculation of Purchase of Assets during the year: (₹ in crores)

Assets at the original Cost in the Beginning of the Year	₹ 1065.11
Cost of the old assets sold during the year	₹ 25.00
	₹ 1040.11

Purchases during the year = ₹ 1140.11 - 1040.11 = 100.

- It is assumed that the dividend of the last year has been paid during the year.
- To estimate the free cash flows to the company, we take Cash Flows prior to debt and preferred dividend payments, by subtracting from the after-tax operating income the net investment needs to sustain growth.

❖ Free Cash Flows to equity can be estimated by deducting the payment made to lenders and dividend paid to preference shareholders from free cash flows to Company.

1. (b) (no. in crores)

No. of Ordinary Shares	107.41
No. of 'A' Ordinary Shares	20.20
Allocation of Earnings between Ordinary Shares and 'A' Ordinary Shares	
No. of Ordinary Shares	107.41
Since 'A' Ordinary Shares are entitled to receive dividend 5% point more than that what Ordinary Shares get, the Equivalent number of shares will be 20.20 ×1.05	21.21
Total	**128.62**
Therefore, the proportion of earnings distribution will be	
No. of Ordinary Shares	83.5%
No. of 'A' Ordinary Shares	16.5%
	100.0%

	2012-2013	2013-2014
PAT (₹ in crores)	1,708.05	1,613.88
Profit after tax belongs to Ordinary share (83.5%) (₹ in crores)	1,426.22	1,347.59
Profit after tax belongs to 'A' ordinary shares (16.5%) (₹ in crores)	281.83	266.29
No. of Ordinary Shares (in cores)	107.41	107.41
No. of 'A' Ordinary Shares (in crores)	20.20	20.20
EPS for ordinary shares (₹)	13.28	12.55
'A' Ordinary shares (₹)	13.95	13.18
Price of ordinary share (₹)	124.00	118.00
EPS of ordinary share (₹)	13.28	12.55
Therefore P/E ratio	9.34	9.40

(₹ in crores)

	31.03.2013	31.3.2014
Calculation of Book Value Per Share:		
Share Capital	638.07	638.07
Reserves and Surplus	18,496.77	18,538.58
Deferred Tax Liabilities (Net)	1,963.91	43.11
Net Worth	**21,098.75**	**19,219.76**
No. of Ordinary Shares (in crores)	107.41	107.41
No. of 'A' Ordinary Shares (in crores)	20.20	20.20
Total Shares (in crores)	**127.61**	**127.61**
Distribution of Net Worth between-		
Ordinary Shares	17,758.93	16,177.37
'A' Ordinary Shares	3,339.82	3,042.39
Total	**21,098.75**	**19,219.76**
Book Value of Ordinary Shares	**165.34**	**150.61**
Prices of Ordinary Shares	**₹ 124.00**	**₹ 118.00**
Price to Book Value Ratio	**0.75**	**0.78**

If the ratio is expressed as Book Value ÷ Price, the answer will be 1.33 and 1.28 respectively.

2. (a) (i) H Ltd. is not performing satisfactorily for some years. Following are the financial data provided to you. (All amounts are in ₹ lakhs)

Balance Sheet as at 31-03-2014 (abstract)

Equity share capital	230	Fixed Assets	1400
Reserve and Surplus	105	Current Assets	500
Long term loans	960	Profit & Loss (Dr)	175
Current Liabilities	780		
	2075		2075

Net Loss for the year: 190
EBIT: 100
Sales: 2,400
Depreciation written off: 96
Preliminary expenses written off: 38
Market Capitalization: 275

(I) Ascertain the stage of sickness based on NCAER parameters **4**

(II) Compute value of Z and comment on sickness of the company using Altman's model. **6**

(ii) What is Off- Balance sheet financing? **5**

2. (b) The extract of balance sheets and income statements of M/s Novel Company over the last 3 years are as follows: **(₹ in Thousands)**

Particular	2011	2012	2013
Cash	561	387	202
Receivable	1963	2870	4051
Inventories	2031	2613	3287
Current Assets	4555	5870	7540
Net Fixed Assets	2581	4430	4364
Total Assets	7136	10300	11904
Payable	1862	2944	3613
Accruals	301	516	587
Bank Loan	250	900	1050
Current Liabilities	2413	4360	5250
Long term debt	500	1000	950
Share holders equity	4223	4940	5704
Total Liabilities and equity	7136	10300	11904
Sales	11863	14952	16349
Cost of goods sold	8537	11124	12016
Selling, general and administrative expenses	2349	2659	2993
Profit before taxes	977	1169	1340
Taxes	390	452	576
Profit after taxes	587	717	764

You are required to:

a. Prepare common size statement, and **9**

b. Comment on the trends in the company's financial condition and performance. **6**

2. (c) (i) Following financial extracts are provided from the accounts of Lotus Ltd. You are required to calculate ROA with the help of Asset Turnover Ratio and ROE with

the help of Equity Multiplier under Du Pont analysis and compare the performance of the company over the years in terms of amounts and in terms of ratios. **7**

(₹ in thousands)

Particular	**2013**	**2012**	**2011**	**2010**
Net Income	**438**	**423**	**410**	**395**
Revenue	**2620**	**2450**	**2340**	**2240**
Assets	**1588**	**1468**	**1400**	**1335**
Equity	**790**	**726**	**685**	**650**

(ii) **If P/E ratio is low, Earnings Yield is high. Do you think it signals future earnings to grow? Explain.** **2**

(iii) **When P/E ratio is high do you expect higher forward P/E? Explain** **2**

(iv) **Explain whether and in what way residual earning and abnormal growth are relevant to evaluation of P/B and P/E ratios.** **4**

Answer:

2. (a) (i)

(I) NCAER has 3 parameters:

1. Cash Profits
2. Working Capital
3. Net Worth

(₹ in lakhs)

			Cash Profit	Working Capital	Net Worth
I	Net Profit (Loss)	(190)			
II	Depreciation	96			
III	Preliminary Expenses	38			
IV	Cash profit I+II+III		(56)		
V	Current Assets	500			
VI	Current Liabilities	780			
VII	Working Capital V-VI			(280)	
VIII	Equity Share Capital	230			
IX	Reserve and Surplus	105			
X	Profit and Loss balance (Dr.)	(175)			
XI	Net Worth VIII+IX+X				160

If any one parameter is negative the firm has tendency to sickness; any two negative, it is incipient sickness; all three negative it is fully sick.

Since Net worth is positive and other two are negative, incipient sickness is identified as per NCAER.

(II) Altman's Z score = $1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$

Where, X_1 = working capital to total assets = -280/1900 = - 0.147

X_2 = retained earning to total assets = - 70/1900 = - 0.037

X_3 = EBIT to total assets= 100 / 1900 = 0.053

X_4 = market value of equity shares to book value of total debt = 275/1740

= 0.158

X_5 = sales to total assets = 2400/1900 = 1.263

So Z = 1.2 x (0.147) + 1.4 x (0.037) + 3.3 x 0.053 + 0.6 x 0.158 + 1.0 x 1.263
= (0.1764) + (0.0518) + 0.1749 + 0.0948 + 1.263
= 1.3045
being less than 1.81 the prediction on the basis of Altman's model is that H Ltd. belongs to Bankrupt Class.

2. (a) (ii)

Definition of 'Off Balance Sheet - OBS'

An asset or debt that does not appear on a company's balance sheet. Items that are considered off balance sheet are generally ones in which the company does not have legal claim or responsibility for. For example, loans issued by a bank are typically kept on the bank's books. If those loans are securitized and sold off as investments, however, the securitized debt is not kept on the bank's books. One of the most common off-balance sheet items is an operating lease. Off balance Sheet (OBS) usually means an asset or debt or financial activity not on the Company's balance sheet. It could involve a lease or a separate subsidiary or a contingent liability such as a letter of credit. It also involves loan commitments, futures forwards and other derivatives, when-issue securities and loans sold.

Off- Balance - Sheet Financing

It is a form of financing in which large capital expenditure is kept off of a company's balance sheet through various classification methods. It means a company does not include a liability on its balance sheet. It is an accounting term and impacts a company's level of debt and liability. Companies will often use off-balance-sheet financing to keep their debt to equity (D/E) and leverage ratio low, especially if the inclusion of a large expenditure would break negative debt covenants.

Examples of Off-balance-sheet financing includes joint venture, providing guarantees or letters of credit, research and development partnerships, and operating leases (rather than purchases of capital equipment)

Operating lease are one of the most common forms of off-balance-sheet financing, in these cases, the asset itself is kept on the lessor's balance sheet and the lessee reports only the required rental expenses for use of the asset.

2. (b)

(a) Statement showing Common size Analysis

(in %)

Particulars	2011	2012	2013
Cash	7.9	3.8	1.7
Receivable	27.5	27.8	**34.0**
Inventories	28.4	25.4	27.6
Current Assets	63.8	57.0	63.3
Net Fixed Assets	36.2	43.0	36.7
Total Assets	**100.0**	**100.0**	**100.0**
Payable	26.1	28.6	30.4
Accruals	4.2	5.0	4.9
Bank loan	3.5	8.7	8.8

Current Liabilities	33.8	42.3	44.1
Long term debt	7.0	9.7	8.0
Share holders equity	59.2	48.0	47.9
Total Liabilities and equity	**100.0**	**100.0**	**100.0**
Sales	100.0	100.0	100.0
Cost of goods sold	72.0	74.4	73.5
Selling, general and administrative expenses	19.8	17.8	18.3
Profit before taxes	8.2	7.8	18.3
Taxes	3.3	3.0	3.5
Profit after taxes	4.9	4.8	4.7

(b) Comments:

The common size analysis shows that receivable are growing faster than total assets and current assets, while cash declined dramatically as percentage of both.

Net fixed assets surged in 2012, but then fell back as a percentage of the total to almost the 2011 percentage. The absolute amounts suggest that the company spent less than its depreciation on fixed assets in 2013.

With respect to financing, shareholders equity has not kept up, so the company has had to use somewhat more debt percentage wise.

Bank loans and long-term debt also increased sharply in 2012, no doubt to finance the bulge in net fixed assets. The bank loan remained almost about the same in 2013 as a percentage of total liabilities and equity, while long-term debt declined as a percentage.

Profit after taxes slipped slightly as a percentage of sales over the 3 years. In 2012, this decline was a result of the cost of goods sold, as expenses and taxes declined as a percentage of sales. In 2013, cost of goods sold declined as a percentage of sales, but this was more than offset by increases in expenses and taxes as percentages of sales.

2. (c)

(i) (₹ in Thousands)

Particulars	2013	2012	2011	2010	Comment
Net Income	438	423	410	395	Growing
Revenue	2620	2450	2340	2240	Growing
Assets	1588	1468	1400	1335	Growing
Equity	790	726	685	650	Growing
DU PONT ANALYSIS					
Profit Margin = Net Income/ Revenue	16.72	17.27	17.52	17.63	Declining
Asset Turnover = Revenue/ Assets	1.65	1.67	1.67	1.68	Declining
ROA (Return on Assets) = Profit Margin X Assets Turnover	27.59	28.84	29.26	29.62	Declining
Equity Multiplier = Assets/ Equity	2.01	2.02	2.04	2.05	Declining
ROE = (Return on Equity) = ROA X Equity Multiplier	55.46	58.26	59.69	60.72	Declining

(ii) No. Low P/E ratio signifies that market price is low relative to accounted earnings.

Future earnings expectation of the market is reflected on market price. Relatively low market price is not indicative of expected growth in future earnings.

(iii) No. When P/E ratio is high it signifies higher earnings expectation in future. Forward P/E ratio is computed by dividing the current market price by the future expected earnings per share. If future expected EPS is higher the Forward P/E ratio has to fall below current P/E.

(iv) One pays a premium over book value based on the ability of the firm to grow residual earnings. Residual earnings are the excess of earnings over required return on book value. A growing residual earning is expected to reflect in increased P/B ratio. One pays more than a normal P/E based on the ability of a firm to generate abnormal earnings growth. Abnormal earnings growth is the excess of earnings over the normal growth at required rate. Its presence is expected to raise P/E.

Section B

In this section, answer Question No. 3(a) and 3(b) which is compulsory and any two parts out of Question No. 4(a), 4(b) and 4(c).

3. (a) Healthy Ltd. is planning to takeover Dull Ltd. and merged it with itself. The following information has been taken from the books of both the companies:

Balance Sheet as on March 31, 2014 **(₹ in crores)**

Equity and Liabilities:	Healthy Ltd.	Dull Ltd.
Equity Share Capital	4,000.00	2,200.00
Reserves and Surplus	5,250.00	3,250.00
Shareholders' Funds	9,250.00	5,450.00
Non-Current Liabilities:		
Long Term Debt	3,000.00	1,375.00
Deferred Tax Liabilities (Net)	670.00	450.00
Current Liabilities	2,060.00	1,340.00
Total Liabilities	14,980.00	8,615.00
Assets		
Non-Current Assets:		
Net Fixed Assets	9,745.00	4,310.00
Investments	1,650.00	900.00
Current Assets	3,585.00	3,405.00
Total Assets	14,980.00	8,615.00

Profit and Loss Account for the year ending on March 31, 21014 **(₹ in crores)**

Particulars	Healthy Ltd.	Dull Ltd.
Income:		
Net Revenue	30,150.00	12,529.00
Other Income	460.00	900.00
Total Income	30,610.00	13,429.00
Less Expenses:		
Total Operating Expenses	20,135.00	6,214.00
Operating Profit	10,475.00	7,215.00
Less: Interest	375.00	171.88
Profit Before Tax	10,100.00	7,043.12
Less: (Tax @ 30%)	3,030.00	2,112.93
Profit After Tax	7,070.00	4,930.19
Price/Earnings Ratio	21.80	15.25

Notes:
- **Face Value of both companies shares is ₹10.**
- **There will not be any synergy gain after merger of the companies.**
- **The management of Healthy Ltd. believes that the P/E Ratio of the merged entity will be 22.50.**

The management wants to determine the exchange ratio or swap ratio for the said merger in such a manner that the market price per share of the merged entity is maximum. Therefore, you are required to determine a suitable exchange ratio or swap ratio based on Book Value per share or EPS or Market Price per share so that the market price per share of the merged entity is maximum. **10**

(b) (i) Dhyan Ltd. has announced issue of warrants on1 :1 basis for equity shareholders. The warrants are convertible at an exercise price of ₹12. Warrants are detachable and trading at ₹7. What is the minimum price of the warrant and what is the warrant premium if the current price of the stock is ₹16? **4**

(ii) Calculate economic value added (EVA) with the help of the following information of Moon Ltd. **4**

Financial Leverage: 1.4 times;
Equity capital ₹170 lakhs;
Reserve and surplus ₹130 lakhs;
10% debentures ₹400 lakhs;
Cost of equity: 15%
Income tax: 30%

(iii) Can EVA signal value destroying when ROI is rising? **2**

Answer:

3. (a) (₹ in crores)

Calculations as per Book Value:		
Particulars	Healthy Ltd.	Dull Ltd.
Equity Share Capital	₹ 4,000.00	₹ 2,200.00
Reserves and Surplus	₹ 5,250.00	₹ 3,250.00
Deferred Tax Liabilities (Net)	₹ 670.00	₹ 450.00
Net Worth	**₹ 9,920.00**	**₹5,900.00**
No. of Shares (in crores)	**400.00**	**220.00**
Book Value per Share	24.80	26.82
Swap Ratio	**1**	**1.08**
No. of Shares to be issued to the shareholders of Dull Ltd will be	237.60	
Total No. of Shares of the Merged Entity	637.60	
Total Profit of the Merged Entity	12,000.19	
EPS of the Merged Entity	₹ 18.82	
P/E Ratio of Merged Entity will be	22.50	
Price of the Merged Entity Share	**₹ 423.45**	
Calculations as per EPS:		
Particulars	**Healthy Ltd.**	**Dull Ltd.**

Profit After Tax	₹ 7,070.00	₹ 4,930.19
No. of Shares	**400.00**	**220.00**
EPS	₹ 17.68	₹ 22.41

Swap Ratio	**1**	**1.27**
No. of Shares to be issued to the shareholders of	279.40	
Dull Ltd will be		
Total No. of Shares of the Merged Entity	679.40	
Total Profit of the Merged Entity	12,000.19	
EPS of the Merged Entity	₹ 17.66	
P/E Ratio of Merged Entity will be	22.50	
Price of the Merged Entity Share	**₹ 397.35**	

Calculations as per Market Price		
Particulars	**Healthy Ltd.**	**Dull Ltd.**
Price/Earning Ratio	21.80	15.25
EPS	₹ 17.68	₹ 22.41
Therefore, the Market Price is	₹ 385.42	₹ 341.75
Swap Ratio	1	**0.89**
No. of Shares to be issued to the shareholders of	195.80	
Dull Ltd will be		
Total No. of Shares of the Merged Entity	595.80	
Total Profit of the Merged Entity	12,000.19	
EPS of the Merged Entity	₹ 20.14	
P/E Ratio of Merged Entity will be	22.50	
Price of the Merged Entity Share	**₹ 453.15**	

Since the maximum price of the share of the merged entity is ₹ 453.15 under the Market Price Swap Ratio, the management is advised to decide the swap ratio on the basis of the Market Price.

3. (b)

(i) Minimum price = (Market price of stock – Exercise price) x Exercise Ratio
= ₹ (16-12) x 1.0 = ₹4

Warrant Premium = Market price of Warrant – Minimum price of warrant
= ₹ (7-4) = ₹3

(ii) DFL=1.4

I =10% of 400 = 40;

DFL = EBIT/(EBIT - I) = EBIT/(EBIT - 40) = 1.4;

EBIT = 140

NOPAT = EBIT (1-t) = 140 ×0.7 = 98

Equity = 300

Cost of debt after tax = 0.07

Capital Charge = Equity × Cost of Equity + Debt × Cost of Debt = 300×0.15 + 400×0.07 = 73

EVA = NOPAT - Capital Charge = 98-73 = ₹ 25 lakhs

(iii) Yes. A negative EVA signal value destroying. EVA can be negative even if ROI is rising. Rising Cost of Capital may push up Capital Charge so high that EVA comes to be negative in spite of increased NOPAT arising from rising ROI.

4. (a) (i) What are the misconceptions about valuation? 5

(ii) Negotiation is going on for transfer of A. Ltd. on the basis of Balance Sheet and additional information as given below:

Balance sheet of A Ltd. as on 31st March, 2014

Liabilities	Amount (₹)	Assets	Amount (₹)
Share capital (₹10 fully paid up share)	10,00,000	Goodwill	1,00,000
		Land & Building	3,00,000
Reserve & surplus	4,00,000	Plant & machinery	8,00,000
Sundry Creditors	3,00,000	Investment	1,00,000
		Stock	2,00,000
		Debtors	1,50,000
		Cash & Bank	50,000
Total	**17,00,000**	**Total**	**17,00,000**

Profit before tax for 2013 – 14 amount to ₹6,00,000 including ₹10,000 as interest on investment.

However, an additional amount of ₹50,000 per annum shall be required to be spent for smooth running of the business. Market value of the Land & Building and Plant & Machinery are estimated at ₹9,00,000 and ₹10,00,000 respectively. In order to match the above figures further depreciation to the extent of ₹40,000 should be taken into consideration. Income tax rate may be taken at 30%. Return on capital @ 20% before tax may be considered as normal for this business for the present stage.

For the purpose of determining the rate of return profit for this year after the aforesaid adjustments may be taken as expected average profit. Similarly, average trading capital employed is also to be considered on the basis of position in this year.

It has been agreed that a three years purchase of super profit shall be taken as the value of goodwill for the purpose of the deal. You are requested to calculate the value of goodwill for the company. 10

(b) Frontier company Limited (FCL) is in negotiation for taking over Back Moving Company Limited (BMCL). The management of FCL is seeing strong strategic fit in taking over BMCL provided it is a profitable proposition. Mr. Guha, GM (Finance) has been asked to look into the viability of the probable takeover of BMCL. He has collected the following necessary information.

Summarized Balance Sheet of Back Moving Company Limited (BMCL) as on March 31, 2014.

Liabilities	Amount (₹ in crores)
Share holder's Fund:	
Equity Share Capital (₹ 10 par)	200.00
12% Preference Capital (₹100 par)	75.00
Reserve and Surplus	125.00
	400.00
Non-Current Liabilities:	
10% Debentures	40.00
Long Term Loan	25.00
	65.00
Current Liabilities	24.75
Total Liabilities	489.75
Assets	
Non-Current Assets:	
Net Fixed Assets	332.75
Investments	125.00
	457.75
Current Assets:	
Inventories	10.00
Debtors	15.00
Cash in Hand and at Bank	4.25
Loans and Advances	1.75
	31.00
Miscellaneous Expenses to the extent not written off	1.00
Total Assets	489.75

Proposed Purchase Consideration:

- 10.50% Debentures of FCL for redeeming 10% Debentures of BMCL— ₹44 crore.
- 11% Convertible Preference Shares of FCL for the payment of Preference Shareholders of BMCL— ₹ 100 crore.
- 12.50 crores of Equity Shares of FCL would be issued to the shareholders of BMCL at the prevailing market price of ₹ 20 each.
- FCL would meet all dissolution expenses of ₹0.50 crores.

The management of FCL would dispose any asset and liability which may not be required after takeover:

- Investments ₹ 150 crores
- Debtors ₹ 15 crores
- Inventories ₹ 9.75 crores
- Payment of Current Liabilities ₹ 25 crores
- All intangible assets will be written off

The management of FCL would like to run the taken over company, BMCL, for next 7 years and after that, it would discontinue with it. It is expected that for the next 7 years, the taken over company would generate the following yearly operating cash flows after tax:

	1	2	3	4	5	6	7
Operating Cash Flows After Tax (₹ in crores)	70	75	85	90	100	125	140

It is estimated that the terminal cash flows of BMCL would be ₹50 crores at the end of 7th year.

If the cost of capital of FCL is 16%, then you are required to find out whether the decision

to takeover BMCL at the terms and conditions mentioned above will be a profitable decision? **15**

Year	1	2	3	4	5	6	7
Discounting Factor @ 16%	0.8621	0.7432	0.6407	0.5523	0.4761	0.4104	0.3538

4. (c) ABC Ltd is engaged in power projects. As part of its diversification plans, the company proposes to put up a windmill to generate electricity. The details of the scheme are as follows:

Sl. No.	Particulars
1.	Cost of the windmill, ₹ 300 lakhs
2.	Cost of the land, ₹15 lakhs
3.	Subsidy from State Govt. to be received at the end of 1st year of installation ₹15 lakh.
4.	Cost of electricity will be ₹2.25 per unit in year 1. This will increase by ₹0.25 per unit every year till year 7. After that, it will increase every year by ₹0.50 per year till year 10.
5.	Maintenance cost will be ₹4 lakh in year 1 and the same will increase by ₹2 lakh every year.
6.	Estimated life is 10 years
7.	Cost of capital is 15%
8.	Residual value is nil. However, land value will go up to ₹60 lakh at the end of year 10.
9.	Depreciation will be 100% of the cost of the windmill in year 1 and the same will be allowed for the tax purpose.
10.	The windmills are expected to work based on wind velocity. The efficiency is expected to be on an average 30%. Gross electricity generated at this level will be 25 lakhs unit per annum; 4% of which will be committed to the State Electricity Board as per the agreement.
11.	Tax rate is 35%

From the above information you are required to compute the net present value. Ignore tax on capital profit. Use present value up to 2 digit. **15**

Answer:

4. (a) (i)

There are a number of misconceptions about valuation.

1. A valuation is an objective search for true value.
2. Since valuation models are quantitative, valuation is better.
3. A well researched and well done valuation is timeless.
4. A good valuation provides a precise estimate of value.
5. To make money on valuation, you have to assume that markets are inefficient.
6. The product of valuation (i.e., value) matters and not the valuation.
7. How much a business is worth depends on what the valuation is used for.

4. (a) (ii)

Valuation of goodwill:	(Amount in ₹)
Capital employed on 31st March, 2014	
Land and Building	9,00,000
Plant and Machinery	10,00,000
Stock	2,00,000
Debtors	1,50,000
Cash & Bank	50,000

Less: Sundry Creditors	(3,0,000)
	20,00,000

Average maintainable trading profit for the year ended 31st March, 2014

	(Amount in ₹)	(Amount in ₹)
Net Profit before tax Less: Additional depreciation Less: Additional recurring expenses Less: Non operating earning (Interest on Investment)	 40,000 50,000 10,000	6,00,000 1,00,000
Adj. NP Provision for Taxation @ 30% of ₹5,40,000 (Further depreciation provided not tax deductible)		5,00,000 1,62,000
Average maintainable profit		3,38,000
Closing capital employed 31.03.2014 Less - 50% of average maintainable profit		20,00,000 1,69,000
Average Capital employed		18,31,000
Average maintainable profit Less: Normal profit 14% on capital employed (₹18,31,000)		3,38,000 2,56,340
Valuation of Goodwill Super profit		81,660
Goodwill at 3 years purchase of super profit (81,660 x 3 years)		₹ 2,44,980

Alternative solution

Valuation of goodwill

Calculation of Capital employed on 31st March, 2014

	₹
Land and Building	9,00,000
Plant and Machinery	10,00,000
Investment	1,00,000
Stock	2,00,000
Debtors	1,50,000
Cash & Bank	50,000
Less: Sundry Creditors	(3,00,000)
	21,00,000

Average maintainable trading profit for the year ended 31st March, 2014

	₹	₹
Net Profit before tax		6,00,000
Less: Additional depreciation	40,000	
Less: Additional recurring expenses	50,000	90,000
Adj. Net Profit		5,10,000
Provision for taxation @30% of ₹5,50,00 (Further depreciation provided not tax deductible)		1,65,000
Average maintainable profit		3,45,000
Closing capital employed 31.03.2014		21,00,000
Less: 50% of average maintainable profit		1,72,500
Average capital employed		19,27,500

Average maintainable profit		3,45,000
Less: Normal profit 14% on capital employed (₹19,27,500)		2,69,850
Valuation of goodwill super profit		75,150
Goodwill at 3 years purchase of super profit (75,150 x 3 years)		2,25,450

4. (b)

(₹ in crores)

Cost of Acquisition: Proposed Payments:		
Dissolution Expenses	0.5	
Current Liabilities	25.00	
10.50% Debentures	44.00	
11% Convertible Preference Shares	100.00	
Equity Shares	250.00	419.50
Less:		
Sale Proceeds from Investments	150.00	
Debtors	15.00	
Inventories	9.75	
Loans & Advances	1.75	
	176.5	
Cash & Bank Balance	4.25	180.75
Net Cost of Acquisition		238.75

Present value calculation

PV Given	PV can be done as
60.34	60.35
55.74	55.74
54.46	54.46
49.71	49.71
47.61	47.61
51.31	51.30
49.54	49.53
17.69	17.69

Since the present value of the future cashflows is more than the cost of acquisition, it will be a profitable proposition to take over the said company, BMCL (the excess/surplus being ₹ 147.64 crores).

4. (c)

Calculation of NPV

(All amount in lakh of rupees)

Incremental cash outflows	
Cost of land	15
Cost of windmill	300

Less - subsidy from state government (151akh *0.87)	13
	302

Incremental CFAT and NPV

Year	Gross savings on 24 lakh units	Maintenance Costs	Net Savings	Taxes	CFAT	PVF	Total PV
1	54	4	50	(87.5)	137.5	0.87	119.62
2	60	6	54	18.9	35.1	0.76	26.68
3	66	8	58	20.3	37.7	0.66	24.88
4	72	10	62	21.7	40.3	0.57	22.97
5	78	12	66	23.1	42.9	0.50	21.45
6	84	14	70	24.5	45.5	0.43	19.56
7	90	16	74	25.9	48.1	0.38	18.28
8	102	18	84	29.4	54.6	0.33	18.02
9	114	20	94	32.9	61.1	0.28	17.11
10	126	22	104	36.4	67.6	0.25	16.90
10	Land				60	0.25	15
						Total present value	320.47
						Less: incremental cash out flows	302
						NVP	18.47

The net present value is ₹ 18.47 lakhs, hence proposed project may be undertaken.

Alternative solution

Calculation of NPV (₹ in lakhs)

Incremental cash outflows	
Cost of land	15.00
Cost of Windmill	300.00
Less: Subsidiary from State Government (₹15 lakh x 0.87)	13.05
	301.95

Incremental CFAT and NPV

Year	Gross savings on 24 lakh units	Maintenance costs	Net savings	Taxes	CFAT	PVF	Total PV
(1)	(2)	(3)	(4=2-3)	(5)	(6=4-5)	(7)	(8=6*7)
1	54 [24*2.25]	4	50	(87.5)	137.5	0.87	119.62
2	60 [24*2.50]	6	54	18.9	35.1	0.76	26.68
3	66 [24*2.75]	8	58	20.3	37.7	0.66	24.88
4	72 [24*3.00]	10	62	21.7	40.3	0.57	22.97
5	78 [24*3.25]	12	66	23.1	42.9	0.50	21.45

6	84 [24*3.50]	14	70	24.5	45.5	0.43	19.56
7	90 [24*3.75]	16	74	25.9	48.1	0.38	18.28
8	102 [24*4.25]	18	84	29.4	54.6	0.33	18.02
9	114 [24*4.75]	20	94	32.9	61.1	0.28	17.11
10	126 [24*5.25]	22	104	36.4	67.6	0.25	16.90
10	Land				60	0.25	15.00
				Total present value			320.47
				Less: incremental cash outflows			301.95
				NPV			18.52

The net present value is ₹18.52 lakhs, hence proposed project may be undertaken.

Note: Depreciation will be 100 % of the cost of windmill in year 1 and same allowed for tax purpose. (₹300 lakhs, depreciation - ₹50 lakh, net savings). On negative Earnings after tax of ₹250 lakhs, tax savings will be ₹87.5 lakhs