

Roll No.....

Total No. of Questions—6]

[Total No. of Printed Pages—7

Time Allowed—3 Hours

Maximum Marks—100

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Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi medium. If a candidate who has not opted for Hindi medium, answers in Hindi, the same will not be valued.

Question No. 1 is compulsory. Answer any **four** questions from the rest. Figures in the margin indicate marks allotted to each question.

Working notes should form part of the answer.

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1. ABC Ltd. sells computer services to its clients. The company has recently completed a feasibility study and decided to acquire an additional computer, the details of which are as follows :
1. (The purchase price of the computer is Rs. 2,30,000; maintenance, property taxes and insurance will be Rs. 20,000 per year. The additional expenses to operate the computer are estimated at Rs. 80,000. If the computer is rented from the owner, the annual rent will be Rs. 85,000, plus 5% of annual billings. The rent is due on the last day of each year.)
2. Due to competitive conditions, the company feels that it will be necessary to replace the computer at the end of three years with a more advanced model. Its resale value is estimated at Rs. 1,10,000.
3. The corporate income tax rate is 50% and the straight line method of depreciation is followed.
4. The estimated annual billing for the services of the new computer will be Rs. 2,20,000 during the first year, and Rs. 2,60,000 during the subsequent two years.

85000 + 5%

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2.3L
20000 + 80000
+ 110000
220000 + 260000 +

1.08.

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Marks

5. If the computer is purchased, the company will borrow to finance the purchase from a bank with interest at 16% per annum. The interest will be paid regularly, and the principal will be returned in one lump sum at the end of the year 3.

Should the company purchase the computer or lease it? Assume (i) cost of capital as 12%, (ii) straight line method of depreciation, (iii) salvage value of Rs. 1,10,000 and evaluate the proposal from the point of view of lessor also.

2. (a) A Ltd. wants to acquire T Ltd. and has offered a swap ratio of 1 : 2 (0.5 shares for every one share of T Ltd.). Following information is provided : 10

	A Ltd.	T. Ltd.
Profit after tax	Rs. 18,00,000 ✓	Rs. 3,60,000 ✓
Equity shares outstanding (Nos.)	6,00,000 ✓	1,80,000 ✓
EPS	Rs. 3 ✓	Rs. 2 ✓
PE Ratio	10 times ✓	7 times ✓
Market price per share	Rs. 30 ✓	Rs. 14 ✓

Required :

- The number of equity shares to be issued by A Ltd. for acquisition of T Ltd.
 - What is the EPS of A Ltd. after the acquisition?
 - Determine the equivalent earnings per share of T Ltd.
 - What is the expected market price per share of A Ltd. after the acquisition, assuming its PE multiple remains unchanged?
 - Determine the market value of the merged firm.
- (b) XY Ltd. which is specialized in manufacturing garments is planning for expansion to handle a new contract which it expects to obtain. An investment bank have approached the company and asked whether the Co. had considered venture Capital financing. In 2001, the company borrowed Rs. 100 lacs on which

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Valuation

interest is paid at 10% p.a. The Company shares are unquoted and it has decided to take your advice in regard to the calculation of value of the Company that could be used in negotiations using the following available information and forecast.

Company's forecast turnover for the year to 31st March, 2005 is Rs. 2,000 lacs which is mainly dependent on the ability of the Company to obtain the new contract, the chance for which is 60%, turnover for the following year is dependent to some extent on the outcome of the year to 31st March, 2005. Following are the estimated turnovers and probabilities :

Year-2005		Year-2006	
Turnover Rs. (in lacs)	Prob.	Turnover Rs. (in lacs)	Prob.
2,000	0.6	2,500	0.7
		3,000	0.3
1,500	0.3	2,000	0.5
		1,800	0.5
1,200	0.1	1,500	0.6
		1,200	0.4

Operating costs inclusive of depreciation are expected to be 40% and 35% of turnover respectively for the years 31st March, 2005 and 2006. Tax is to be paid at 30%. It is assumed that profits after interest and taxes are free cash flows. Growth in earnings is expected to be 40% for the years 2007, 2008 and 2009 which will fall to 10% each year after that. Industry average cost of equity (net of tax) is 15%.

3. (a) A USA based company is planning to set up a software development unit in India. Software developed at the Indian unit will be bought back by the US parent at a transfer price of US \$ 10 millions. The unit will remain in existence in India for one year; the software is expected to get developed within this time frame.

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1270
2298
2203 3105 3573

The US based company will be subject to corporate tax of 30 per cent and a withholding tax of 10 per cent in India and will not be eligible for tax credit in the US. The software developed will be sold in the US market for US \$ 12.0 millions. Other estimates are as follows :

Rent for fully furnished unit with necessary

hardware in India

Rs. 15,00,000

Man power cost (80 software professional will

be working for 10 hours each day)

Rs. 400 per man hour

Administrative and other costs

Rs. 12,00,000

Advise the US company on financial viability of the project. The rupee-dollar rate is Rs. 48/\$.

(b) BSE index

500

Value of portfolio

Rs. 10,10,000

Risk free interest rate

9% p.a.

Dividend yield on Index

6% p.a.

Beta of portfolio

1.5

We assume that a futures contract on the BSE index with four months maturity is used to hedge the value of portfolio over next three months. One future contract is for delivery of 50 times the index.

Based on the above information calculate :

(i) Price of future contract.

(ii) The gain on short futures position if index turns out to be 4,500 in three months.

(c) Following information relates to AKC Ltd. which manufactures some parts of an electronics device which are exported to USA, Japan and Europe on 90 days credit terms.

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Cost and Sales information :

	Japan	USA	Europe
Variable cost per unit	Rs. 225	Rs. 395	Rs. 510
Export sale price per unit	Yen 650	US\$ 10.23	Euro 11.99
Receipts from sale due in 90 days	Yen 78,00,000	US\$1,02,300	Euro 95,920

Foreign exchange rate information :

	Yen/Rs.	US\$/Rs.	Euro/Rs.
Spot market	2.417-2.437	0.0214-0.0217	0.0177-0.0180
3 months forward	2.397-2.427	0.0213-0.0216	0.0176-0.0178
3 months spot	2.423-2.459	0.02144-0.02156	0.0177-0.0179

Advice AKC Ltd. by calculating average contribution to sales ratio whether it should hedge its foreign currency risk or not.

- (a) MP Ltd. issued a new series of bonds on January 1, 2000. The bonds were sold at par (Rs. 1,000), having a coupon rate 10% p.a. and mature on 31st December, 2015. Coupon payments are made semiannually on June 30th and December 31st each year. Assume that you purchased an outstanding MP Ltd. Bond on 1st March, 2008 when the going interest rate was 12%. 6

Required :

- (i) What was the YTM of MP Ltd. Bonds as on January 1, 2000 ?
- (ii) What amount you should pay to complete the transaction ? Of that amount how much should be accrued interest and how much would represent bonds basic value.

- (b) AB Ltd. has recently approached the shareholders of CD Ltd. which is engaged in the same line of business as that of AB Ltd. with a bid of 4 new shares in AB Ltd. for every 5 CD Ltd. shares or a cash alternative of Rs. 360 per share. Past records of earnings of CD Ltd. had been poor and the company's shares have been out of favour with the stock market for some time. 14

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Pre bid information for the year ended 31.3.2006 are as follows :

	AB Ltd. in lakh	CD Ltd. in lakh
Equity share capital	60	170
Number of shares	24	17
Pre-tax profit	125	110
P/E Ratio	11	7
Estimated post tax cost of Equity Capital per Annum	12%	10%

Both AB Ltd. and CD Ltd. pay income tax at 30%. Current earnings growth forecast is 4% for the foreseeable future of both the Companies.

Assuming no synergy exists, you are required to evaluate whether proposed share to share offer is likely to be beneficial to the shareholders of both the companies using merger terms available. AB Ltd.'s directors might expect their own pre bid P/E ratio to be applied to combined earnings.

Also comment on the value of the two Companies from the constant growth form of dividend valuation model assuming all earnings are paid out as dividends.

5. (a) From the following data for Government securities, calculate the forward rates :

Face value (Rs.)	Interest rate	Maturity (Year)	Current price (Rs.)
1,00,000	0%	1	91,500
1,00,000	10%	2	98,500
1,00,000	10.5%	3	99,000

- (b) On the basis of the following information :

Current dividend (D_0) = Rs. 2.50

Discount rate (k) = 10.5%

Growth rate (g) = 2%

- (i) Calculate the present value of stock of ABC Ltd.

- (ii) Is its stock overvalued if stock price is Rs. 35, ROE = 9% and EPS = Rs. 2.25 ? Show detailed calculation.

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$$V_e = \frac{D}{P} + g$$

$$V_e = \frac{2.25}{0.07 - 0.02} = 45$$

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(e) (i) What are derivatives ?

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(ii) Who are the users and what are the purposes of use ?

(iii) Enumerate the basic differences between cash and derivatives market.

(a) What is a Green share option ? Explain its working mechanism.

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(b) Write a short note on the application of Double taxation agreements on Global depository receipts.

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(c) "Operations in foreign exchange market are exposed to a number of risks." Discuss.

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(d) XYZ Ltd. has substantial cash flow and until the surplus funds are utilised to meet the future capital expenditure, likely to happen after several months, are invested in a portfolio of short-term equity investments, details for which are given below :

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Investment	No. of shares	Beta	Market price per share Rs.	Expected dividend yield
I	60,000	1.16	4.29	19.50%
II	80,000	2.28	2.92	24.00%
III	1,00,000	0.90	2.17	17.50%
IV	1,25,000	1.50	3.14	26.00%

The current market return is 19% and the risk free rate is 11%.

Required to :

(i) Calculate the risk of XYZ's short-term investment portfolio relative to that of the market;

(ii) Whether XYZ should change the composition of its portfolio.

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$$\begin{aligned}
 & 11 + 1.16(19 - 11) \\
 & 20.28 \\
 & 11 + 2.28(19 - 11) \\
 & 34.36
 \end{aligned}$$