Roll No. .....

Total No. of Questions – **6** Total No. of Printed Pages – **12**

Time Allowed – **3** Hours Maximum Marks – **100**

MPG

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, his/her answers in Hindi will not be valued.

Question No. **1** is compulsory.

Candidates are also required to answer any **FOUR** questions from the remaining **FIVE** questions.

Working Notes should form part of the respective answers

Marks

1. (a) Alfa Ltd. wants to acquire Beta Ltd. and has offered a swap ratio of 1 : 2 (0.5 shares for every one share of Beta Ltd.). Following information is provided : **8**

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

Marks

(i) You are required to determine :

(a) the number of equity shares to be issued by Alfa Ltd. for acquisition of Beta Ltd.

(b) the EPS of Alfa Ltd. after the acquisition.

(c) the equivalent earnings per share of Beta Ltd.

(d) the expected market price per share of A Ltd. after the acquisition, if PE increases to 12 times.

(e) the market value of the merged firm.

(ii) If you are the shareholder of Beta Ltd and holding 100 shares, will you be interested to sell your stake ? Why ?

(b) Mantra Ltd. is planning to buy Alay Ltd. Following information is given in respect of Alay Ltd. which is expected to grow at a rate of 18% p.a. for the next three years, after which the growth rate will stabilize at 8% p.a. normal level, in perpetuity : **8**

Particulars	For the year ended March 31, 2022
Revenues	₹ 6,800 Crores
Cost Of Goods Sold (COGS)	₹ 2,800 Crores
Operating Expenses	₹ 2,100 Crores
Capital Expenditure	₹ 750 Crores
Depreciation (included in Operating Exp.)	₹ 600 Crores

Marks

During high growth period, Revenues & Earnings Before Interest & Tax (EBIT) will grow at 18% p.a. and capital expenditure net of depreciation will grow at 12% p.a. From 4th year onwards, i.e. normal growth period revenues and EBIT will grow at 8% p.a. and incremental capital expenditure will be offset by the depreciation. During both high growth & normal growth period, net working capital requirement will be 25% of revenues.

Corporate Income Tax rate is 30%.

The Weighted Average Cost of Capital (WACC) for both the companies is 15%.

You are required to estimate the value of Alay Ltd. using Free Cash Flows to Firm (FCFF) & WACC methodology.

The PVIF for the three years are as below :

Year	t1	t2	t3
PVIF @ 15%	0.870	0.756	0.658

(c) Briefly explain Asset and Liability Management (ALM). 4

2. (a) MNO Ltd., a company based in India, manufactures very high quality modern furniture and sells them to a small number of retail outlets in India and Nepal. It is facing tough competition. Recent studies on marketability of product have clearly indicated that the customers are now more interested in variety and choice rather than exclusivity and exceptional quality. Since the cost of quality wood in India is very high, the company is reviewing the proposal for import of wood in bulk from Nepalese supplier. 8

MPG **Marks**

The estimate of net India (₹) and Nepalese Currency (NC) cash flow in nominal terms for this proposal is shown below :

Years	Net cash flow (in Millions)	
	NC	India (₹)
0	–38	0
1	1.8	1.9
2	3.2	3.5
3	4.1	4.4
4	5.4	5.8
5	6.5	6.9

The following information is relevant :

(1) MNO Ltd. evaluates all investment by using a discount rate of 11% p.a. All Nepalese customers are invoiced in NC. NC cash flows are converted to Indian ₹ at the forward rate and discounted at the Indian rate.

(2) Inflation rate in Nepal and India are expected to be 11% and 10% p.a. respectively.

(3) The current exchange rate is ₹ 1 = NC 1.65

You are required to calculate Net Present value of the proposal.

Marks

(b) The following 2-way quotes appear in the foreign exchange market : **8**

	Spot	2-months spread
₹/US $	74.00/74.25	1.00/1.25

(i) You are required to calculate :

(a) 2 months forward rates.

(b) How many US dollars should the firm sell to get ₹ 10 lakhs in the spot market and after 2 months ?

(c) How many Rupees is the firm required to pay to obtain US $ 80,000 in the spot market and after 2 months ?

(ii) Assume the firm has US $ 27,600 in current account earning no interest. ROI on Rupee investment is 10% p.a. Should the firm encash the US $ now or after 2 months ?

(c) Explain various methods of hedging of interest rate risk. **4**

3. (a) Details about long term portfolio of shares of an investor is as below : **8**

Shares	No. of shares (Lakh)	Market Price per share	Beta
K Ltd.	6	250	1.4
L Ltd.	8	375	1.2
M Ltd.	4	125	1.6

The investor thinks that the risk of portfolio is very high and wants to reduce the portfolio beta to 0.91.

He is considering below mentioned alternative strategies :

(i) Dispose a part of his existing portfolio to acquire risk free securities, or

(ii) Take appropriate position on Nifty Futures which are currently traded at 16250 and each Nifty points is worth ₹ 100.

Marks

You are required to determine :

(i) portfolio beta,

(ii) the value of risk-free securities to be acquired,

(iii) the number of shares of each company to be disposed off,

(iv) the number of Nifty contracts to be bought/sold,

(v) the value of portfolio beta for 1% rise in Nifty.

8

(b) Ms. Sreenidhi is learning the portfolio management techniques and wants to test one of the techniques she has developed on KIFS Equity Fund and compare the gains and losses from the technique with those from a passive buy and hold strategy.

The KIFS Equity Fund consists of equities only and the ending NAVs of the fund she constructed for the last 10 months are given below :

Month Ending	NAV (₹/unit)
Jan-22	100
Feb-22	78
Mar-22	92
Apr-22	86
May-22	102
Jun-22	98
Jul-22	100
Aug-22	102
Sep-22	118
Oct-22	120

Marks

Assume

(i) Sreenidhi had invested a notional amount of ₹ 5 lakhs equally in the equity fund and a conservative portfolio (of bonds) in the beginning of January 2022 and the total portfolio was being rebalanced each time the NAV of the fund increased or decreased by 15% compared to the NAV of previous month.

(ii) There is no income earned from the conservative portfolio during the period.

(iii) There is no taxation and entry/exit loads.

You are required to determine :

(i) Value of the portfolio for each level of NAV following the Constant Ratio Plan.

(ii) Whether there are any errors in the technique developed by Sreenidhi ? If so briefly explain. 4

(c) Write a short note on Money Market Hedging. 8

4. (a) Following is the information related to three mutual funds :

Year	MF-A	MF-B	MF-C
2020	10%	5%	14%
2021	8%	10%	10%
2022	12%	8%	18%

MPG **Marks**

Correlation between market and mutual fund :

	MF-A	MF-B	MF-C
Correlation with market	0.45	0.25	0.65

Variance of the market is 9% and rate of return of government bond is 7%.

You are required to Rank the Mutual fund using Sharpe's ratio and Treynor's ratio.

(b) M/s. Siri Ltd. has a surplus amount of ₹ 3 crores to invest and has shortlisted the following equity shares : **8**

Company	Beta
S Ltd.	1.6
K Ltd.	1
P Ltd.	-0.3
D Ltd.	2
C Ltd.	0.6

Required :

(i) If M/s. Siri Ltd. invests an equal amount in all securities, what is the beta of the portfolio ?

(ii) If M/s. Siri Ltd. invests 15% of its investment in S Ltd., 15% in P Ltd., 10% in C Ltd. and the balance in equal amount in the other two securities, what is the beta of the portfolio ?

Marks

(iii) If the expected return of market portfolio is 12% at a beta factor of 1.0, what will be the portfolios expected return in both the situations given above ?

(iv) If the Company changes its policy to invest in any 3 securities with a minimum of 20% in each of these 3 securities to diversify risk, you are requested to advise the company to have a right mix of securities to maximize the return in the following two scenarios and also calculate the expected return:

(1) Bull Phase : Expected Market returns 10%

(2) Bear Phase: Expected Market returns – 5%

(c) What are the features of Securitization ? **4**

5. (a) Following is the information related to return on shares of three different companies : **8**

Years	A Ltd.	B Ltd.	C Ltd.
2018	2%	3%	5%
2019	6%	8%	7%
2020	13%	14%	15%
2021	7%	9%	11%

Required :

(i) Construct maximum number of portfolio and its return, if each portfolio consists of any two Company's shares in proportion of 65% and 35% and suggest which portfolio provides highest return.

(ii) Calculate portfolio return and beta (β), if Mr. X invests ₹ 65,000 in A Ltd. having beta (β) of 0.45; ₹ 20,000 in B Ltd. having beta (β) of 1.15 and ₹ 15,000 in C Ltd. having beta (β) of 1.8.

Marks

MPG

(b) The following information was extracted from the books of M/s Murugan Ltd. : **8**

Face Value of Bond	₹ 1000
Coupon Interest Rate	8.5%
Time Period of Maturity Remaining	4 Years
Interest Payment	Annual, at the end of the year
Principal Repayment	At the end of the Bond maturity
Conversion Ratio (Number of shares per Bond)	30
Current Market Price per Share	₹ 55
Market Price of Convertible Bond	₹ 1725

It can issue plain bonds without conversion option at an Interest rate of 10.5%.

Year	t_1	t_2	t_3	t_4
PVIF@10.5%	0.905	0.819	0.741	0.671

Based on the above data, you are requested to calculate :

(i) Straight value of bonds

(ii) Conversion Value of Bond

(iii) Conversion Premium

(iv) Percentage of Down Turn Risk

(v) Conversion Parity Price

(c) What do you mean by Bootstrapping ? Explain the method of Trade Credit used by the startup firms in bootstrapping. **4**

Marks

6. (a) Mr. X wants to invest ₹ 1,00,000 in the 7 years 8% bonds in the market (Face Value ₹ 100) which were issued 2 years ago. **8**

(i) You are requested to advise him what is the maximum price for bonds to be paid in the following scenarios:

(1) If Mr. X is expecting minimum 9% return on the bonds

(2) If Mr. X is expecting minimum 7% return on the bonds

(3) If the present rate of similar bonds issued is 8.25%

(4) If the present rate of similar bonds issued is 7.75%

(ii) If the bonds are available at par and 1% is the transaction cost, what is the effective yield ?

(iii) Find the number of days required to breakeven transaction cost if the bonds are available at par and 2% is the transaction cost.

(b) (i) What is Sustainable Growth Rate ? **8**

(ii) What makes an Organization Sustainable ?

(iii) Mr. X has submitted the following data :

Particulars	(₹) in Lakhs
Total Assets	250
Total Liabilities	220
Net Income	12
Dividend Paid	4.5
Sales	100

Mr. X wants to know to what extent sales can be increased without going for additional borrowings by using Sustainable Growth Rate (SGR) concept ?

Marks

4

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(c) Write a short note on Venture Capital Fund.

OR

What are the applications of Value At Risk (VAR) ?