PAPER – 2 : STRATEGIC FINANCIAL MANAGEMENT

*Question No.**1** is compulsory.*

*Attempt any **four** out of the remaining **five** questions.*

Wherever appropriate, suitable assumptions should be made and indicated in the answer by the candidate.

Working notes should form part of the answer.

Question 1

(a) *Tatu Ltd. wants to takeover Mantu Ltd. and has offered a swap ratio of 1:2 (0.5 shares for everyone share of Mantu Ltd.). Following information is provided*

	Tatu Ltd.	Mantu Ltd.
Profit after tax	₹ 24,00,000	₹ 4,80,000
Equity shares outstanding (Nos.)	8,00,000	2,40,000
EPS	₹ 3	₹ 2
PE Ratio	10 times	7 times
Market price per share	₹30	₹ 14

You are required to calculate:

(i) The number of equity shares to be issued by Tatu Ltd. for acquisition of Mantu Ltd.

(ii) What is the EPS of Tatu Ltd. after the acquisition?

(iii) Determine the equivalent earnings per share of Mantu Ltd.

(iv) What is the expected market price per share of Tatu Ltd. after the acquisition, assuming its PE multiple remains unchanged?

(v) Determine the market value of the merged firm. ***(8 Marks)***

(b) *Following information is given:*

Exchange rates: Canadian dollar 0.666 per DM (spot)

Canadian dollar 0.671 per DM (3-months)

Interest rates: DM 7.5% p.a.

Canadian Dollar - 9.5% p.a.

To take the possible arbitrage gains, what operations would be carried out? ***(8 Marks)***

(c) *Write a short note on Real Estate Regulatory Authority (RERA).* ***(4 Marks)***

Answer

(a) (i) The number of shares to be issued by Tatu Ltd.:

The Exchange ratio is 0.5

So, new Shares = 2,40,000 x 0.5 = 1,20,000 shares.

(ii) **EPS of Tatu Ltd. after acquisition:**

Total Earnings	(₹ 24,00,000 + ₹ 4,80,000)	₹28,80,000
No. of Shares	(8,00,000 + 1,20,000)	9,20,000
EPS	(₹ 28,80,000)/ 9,20,000)	₹3.13

(iii) **Equivalent EPS of Mantu Ltd.:**

No. of new Shares	0.5
EPS	₹3.13
Equivalent EPS (₹ 3.13 x 0.5)	₹1.57

(iv) **New Market Price of Tatu Ltd. (P/E remaining unchanged)**

Present P/E Ratio of A Ltd.	10 times
Expected EPS after merger	₹3.13
Expected Market Price (₹3.13 x 10)	₹31.30

(v) **Market Value of merged firm:**

Total number of Shares	9,20,000
Expected Market Price	₹31.30
Total value (9,20,000 x 31.30)	₹2,87,96,000

(b) In this case, DM is at a premium against the Can$.

Premium = [(0.671 – 0.666) /0.666] x (12/3) x 100 = 3.00 per cent

Interest rate differential = 9.5% - 7.5% = 2 per cent.

Since the interest rate differential is smaller than the premium, it will be profitable to place money in Deutschmarks the currency whose 3-months interest is lower.

The following operations are carried out:

(i) Borrow Can$ 1000 at 9.5 per cent for 3- months;

(ii) Change this sum into DM at the spot rate to obtain DM
= (1000/0.666) = 1501.50

(iii) Place DM 1501.50 in the money market for 3 months to obtain a sum of DM

Principal:	1501.50
Add: Interest @ 7.5% for 3 months =	28.15
Total	1529.65

(iv) Sell DM at 3-months forward to obtain Can$= (1529.65x0.671) = 1026.40

(v) Refund the debt taken in Can$ with the interest due on it, i.e.,

	Can$
Principal	1000.00
Add: Interest @ 9.5% for 3 months	23.75
Total	1023.75

Net arbitrage gain = 1026.40 – 1023.75 = Can$ 2.65

Note: The students may use any quantity of currency to arrive at the arbitrage gain since no specific amount is mentioned in the question.

(c) Short Note on Real Estate Regulatory Authority (RERA): India has a vast population with needs regarding food, house and jobs on an ever-increase mode. The housing among these fields is one of the major ones. Thousands of people have grown to be rich and as many of them have made loss in real estate business. It is the one of the leading revenue generators for the government. Even though it has such strong presence in the country, it never had a regulating body. Due to the failure of the government to observe this, many people have become the victims of some scheming people doing the real estate business. The buyers who come from a middle-class background have time and again fallen prey to such petty real estate developers. There was a growing need to bring a transparent government body which can check the developers.

Finally, the government delivered by making an authority known as RERA which stands for Real Estate Regulatory Authority. It was passed in March 2016 by the parliament. This promises to bring a justice to the buyer through making strict policies that have to be fulfilled by the developers to sell their projects. The major problem that real estate in India is facing is that of the delayed possession given to the home seeker by the rich and the cunning builders. Thus, RERA will help people by bringing in a high level of transparency and discipline that these builders must have to follow.

The laws under RERA are still in the early days of development but one thing is for sure that there will be a huge relief for the buyers regarding developer-specific risk. The mechanism of RERA will be made such that it provides a common ground for both the buyers as well as the developers. Transparency is the key point regarding the rules under RERA as the government wants that every aspect of information that the general public should know should be made available on an informational portal.

The regulatory risk will also be laid upon the developer as he will have to pay compensation if any mishap happens while giving the possession of a unit. All the builders will have to register themselves under RERA which will see a low risk in the property business.

Question 2

(a) Consider the following information on two stocks, X and Y.

Year	*2016*	*2017*
Return on X (%)	*10*	*16*
Return on Y (%)	*12*	*18*

You are required to calculate:

(i) The expected return on a portfolio containing X and Y in the proportion of 40% and 60% respectively.

(ii) The Standard Deviation of return from each of the two stocks.

(iii) The Covariance of returns from the two stocks.

(iv) The Correlation coefficient between the returns of the two stocks.

(v) The risk of a portfolio containing X and Y in the proportion of 40% and 60%.

(10 Marks)

(b) Sabanam Ltd. has issued convertible debentures with coupon rate 11%. Each debenture has an option to convert to 16 equity shares at any time until the date of maturity. Debentures will be redeemed at ₹ 100 on maturity of 5 years. An investor generally requires a rate of return of 8% p.a. on a 5-year security. As an advisor, when will you advise the investor to exercise conversion for given market prices of the equity share of (i) ₹ 5, (ii) ₹ 6 and (iii) ₹ 7.10.

Cumulative PV factor for 8% for 5 years : 3.993

PV factor for 8% for year 5 : 0.681 ***(6 Marks)***

(c) Explain the interface of Financial Policy and Strategic Management. ***(4 Marks)***

Answer

(a) (i) Expected return of portfolio containing X and Y in the ratio 40%,60%

E (X) = (10 + 16) / 2 = 13%

E (Y) = (12 + 18) / 2 = 15%

$$Rp = \sum_{i=1}^{N} X_i R_i = 0.4(13) + 0.6(15) = 14.2\%$$

(ii) Standard Deviation of X and Y

Stock X:

Variance = 0.5 (10 – 13)² + 0.5 (16 – 13) ² = 9

Standard deviation = 3%

Stock Y:

Variance = 0.5 (12 – 15) ² + 0.5 (18 – 15) ² = 9

Standard deviation = 3%

(iii) Cov_{XY} = 0.5 (10 – 13) (12 – 15) + 0.5 (16 – 13) (18 – 15) = 9

(iv) Correlation Coefficient = $\rho = \frac{Cov\,(X,Y)}{\sigma x \sigma y} = \frac{9}{9} = 1$

(v) Risk of portfolio containing 40% X and 60 % Y

$$\sigma p = \sqrt{X_X^2\sigma_X^2 + X_Y^2\sigma_Y^2 + 2X_X X_Y(\sigma_X\sigma_Y Corr._{XY})}$$

$$= \sqrt{(0.4)^2(3)^2 + (0.6)^2(3)^2 + 2(0.4)(0.6)(3)(3)(1)}$$

$$= \sqrt{1.44 + 3.24 + 4.32} = 3\%$$

(b) If Debentures are not converted its value is as under: -

	PVF @ 8 %	₹
Interest - ₹ 11 for 5 years	3.993	43.923
Redemption - ₹ 100 in 5th year	0.681	68.100
		112.023

Value of equity shares:-

Market Price	No.	Total
₹ 5	16	₹ 80
₹ 6	16	₹ 96
₹ 7.10	16	₹ 113.60

Hence, unless the market price is ₹ 7.10 conversion should not be exercised.

(c) The interface of strategic management and financial policy will be clearly understood if we appreciate the fact that the starting point of an organization is money and the end point of that organization is also money. No organization can run an existing business and promote a new expansion project without a suitable internally mobilized financial base or both i.e. internally and externally mobilized financial base.

Sources of finance and capital structure are the most important dimensions of a strategic plan. The need for fund mobilization to support the expansion activity of firm is very vital for any organization. The generation of funds may arise out of ownership capital and or borrowed capital. A company may issue equity shares and / or preference shares for mobilizing ownership capital and debenture to raise borrowed capital.

Policy makers should decide on the capital structure to indicate the desired mix of equity capital and debt capital. There are some norms for debt equity ratio.

However this ratio in its ideal form varies from industry to industry. Another important dimension of strategic management and financial policy interface is the investment and fund allocation decisions. A planner has to frame policies for regulating investments in fixed assets and for restraining of current assets. Investment proposals mooted by different business units may be divided into three groups. One type of proposal will be for addition of a new product, increasing the level of operation of an existing product and cost reduction and efficient utilization of resources through a new approach and or closer monitoring of the different critical activities. Dividend policy is another area for making financial policy decisions affecting the strategic performance of the company. A close interface is needed to frame the policy to be beneficial for all. Dividend policy decision deals with the extent of

earnings to be distributed as dividend and the extent of earnings to be retained for future expansion scheme of the organization.

It may be noted from the above discussions that financial policy of a company cannot be worked out in isolation of other functional policies. It has a wider appeal and closer link with the overall organizational performance and direction of growth. As a result preference and patronage for the company depends significantly on the financial policy framework. Hence, attention of the corporate planners must be drawn while framing the financial policies not at a later stage but during the stage of corporate planning itself.

Question 3

(a) *Herbal World is a small, but profitable producer of beauty cosmetics using the plant Aloe Vera. Though it is not a high-tech business, yet Herbal's earnings have averaged around ₹ 18.5 lakh after tax, mainly on the strength of its patented beauty cream to remove the pimples.*

The patent has nine years to run, and Herbal has been offered ₹ 50 lakhs for the patent rights. Herbal's assets include ₹ 50 lakhs of property, plant and equipment and ₹ 25 lakhs of working capital. However, the patent is not shown in the books of Herbal World. Assuming Herbal's cost of capital being 14 percent, calculate its Economic Value Added (EVA). ***(5 Marks)***

(b) *SG Mutual Fund Company has the following assets under it on the close of business as on:*

		1st August 2017	2nd August 2017
Company	**No. of Shares**	**Market price per share (₹)**	**Market price per share (₹)**
Q Ltd.	2,000	200.00	205.00
R Ltd.	30,000	312.40	360.00
S Ltd.	40,000	180.60	191.55
T Ltd.	60,000	505.10	503.90

Total No. of Units issued by the Mutual Fund is 6,00,000.

(i) Calculate Net Assets Value (NAV) of the Fund.

(ii) Following information is also given:

Assuming that Mr. Zubin, an investor, submits a cheque of ₹ 30,00,000 to the Mutual Fund and the Fund Manager of this entity purchases 8,000 shares of R Ltd; and the balance amount is held in Bank. In such a case, what would be the position of the Fund?

(iii) Calculate new NAV of the Fund as on 2nd August 2017. ***(10 Marks)***

(c) *Discuss what you understand about Embedded Derivatives.* ***(5 Marks)***

Answer

(a) EVA = NOPAT – WACC x Capital Employed.

Capital Employed:	₹ lacs
Property, etc.	50
Working Capital	25
Patent Value	50
Effective or Invested Capital	125

WACC x CE = 14% x ₹ 125 lacs= ₹ 17.5 lacs

EVA = ₹ 18.5 lacs – ₹ 17.5 lacs = ₹ 1 lac

(b) (i) NAV of the Fund

$$= \frac{₹\ 4,00,000 + ₹\ 93,72,000 + ₹\ 72,24,000 + ₹\ 3,03,06,000}{6,00,000}$$

$$= \frac{₹\ 4,73,02,000}{6,00,000} = ₹\ 78.8366 \text{ rounded to } ₹\ 78.84$$

Company	2/8/17 Market Price /share	Value
Q	205	4,10,000
R	360	108,00,000
S	191.55	76,62,000
T	503.90	302,34,000
Total		491,06,000

NAV per unit = $\frac{4,91,06,000}{6,00,000}$ = 81.84

(ii) The revised position of fund shall be as follows:

Shares	No. of shares	Price	Amount (₹)
Q Ltd.	2000	200	4,00,000
R Ltd.	38,000	312.40	1,18,71,200
S Ltd.	40,000	108.60	72,24,000
T Ltd.	60,000	505.10	3,03,06,000
Cash			5,00,800
			5,03,02,000

No. of units of fund = $6,00,000 + \frac{30,00,000}{78.8366}$ = **6,38,053**

(iii) On 2nd August 2017, the NAV of fund will be as follows:

Shares	No. of shares	Price	Amount (₹)
Q Ltd.	2000	205	4,10,000
R Ltd.	38,000	360.00	1,36,80,000
S Ltd.	40,000	191.55	76,62,000
T Ltd.	60,000	503.90	3,02,34,000
Cash			5,00,800
			5,24,86,800

NAV as on 2nd August 2017 = $\frac{₹\ 5,24,86,800}{6,38,053}$ = ₹ 82.26 per unit

(c) Embedded Derivatives: A derivative is defined as a contract that has all the following characteristics:

- Its value changes in response to a specified underlying, e.g. an exchange rate, interest rate or share price;
- It requires little or no initial net investment;
- It is settled at a future date;
- The most common derivatives are currency forwards, futures, options, interest rate swaps etc.

An embedded derivative is a derivative instrument that is embedded in another contract - the host contract. The host contract might be a debt or equity instrument, a lease, an insurance contract or a sale or purchase contract.

Derivatives require to be marked-to-market through the income statement, other than qualifying hedging instruments. This requirement on embedded derivatives are designed to ensure that mark-to-market through the income statement cannot be avoided by including - embedding - a derivative in another contract or financial instrument that is not marked-to market through the income statement.

An embedded derivative can arise from deliberate financial engineering and intentional shifting of certain risks between parties. Many embedded derivatives, however, arise inadvertently through market practices and common contracting arrangements. Even purchase and sale contracts that qualify for executory contract treatment may contain embedded derivatives. An embedded derivative causes modification to a contract's cash flow, based on changes in a specified variable.

Question 4

(a) An established company is going to be de merged in two separate entities. The valuation of the company is done by a well-known analyst. He has estimated a value of ₹ 5,000 lakhs, based on the expected free cash flow for next year of ₹ 200 lakhs and an expected growth rate of 5%. While going through the valuation procedure, it was found that the

analyst has made the mistake of using the book values of debt and equity in his calculation. While you do not know the book value weights he used, you have been provided with the following information:

(i) The market value of equity is 4 times the book value of equity, while the market value of debt is equal to the book value of debt,

(ii) Company has a cost of equity of 12%,

(iii) After tax cost of debt is 6%.

You are required to advise the correct value of the company. ***(8 Marks)***

(b) *Mr. KK purchased a 3-month call option for 100 shares in PQR Ltd. at a premium of ₹ 40 per share, with an exercise price of ₹ 560. He also purchased a 3-month put option for 100 shares of the same company at a premium of ₹ 10 per share with an exercise price of ₹ 460. The market price of the share on the date of Mr. KK's purchase of options, is ₹ 500. Compute the profit or loss that Mr. KK would make assuming that the market price falls to ₹ 360 at the end of 3 months.* ***(4 Marks)***

(c) *Interpret the Capital Asset Pricing Model (CAPM) and its relevant assumptions.* ***(4 Marks)***

(d) *Explain the difference between Islamic Finance and Conventional Finance.* ***(4 Marks)***

Answer

(a) Value of the Company = $\frac{\text{Free Cash Flow at year end 1}}{\text{Kc}-\text{g}}$, where Kc = weighted average cost of capital.

Value of the company = 5000 = $\frac{200}{\text{Kc}-5}$

Kc – 5 = 200/5000 = 4%

Kc = 4% + 5% = 9%

We do not know the weights the analyst had taken for arriving at the cost of capital. Let w be the proportion of equity. Then, (1-w) will be the proportion of debt.

Kc = 9 = w x 12 + (1-w) x 6

9 = 6 + 6w

6w = 3.

Hence w = 3/ 6 = 0.5 = 50 % or 1:1

The weights are equal i.e. 1:1 for equity and debt.

The correct weights should be market value of equity : market value of debts.

i.e. 4 times book value of equity : book value of debts. i.e. 4:1 equity : debt

Revised Kc = 4/5 x 12 + 1/5 x 6= 10.8 %

Revised value of the company = $\frac{200}{10.8-5}$= 200 / 5.8% = 3448.28 lacs.

(b) Since the market price at the end of 3 months falls to ₹ 360 which is below the exercise price under the call option, the call option will not be exercised. Only put option becomes viable.

	₹
The gain will be:	
Gain per share (₹460 – ₹ 360)	100
Total gain per 100 shares	10,000
Cost or premium paid (₹ 40 x 100) + (₹ 10 x 100)	5,000
Net gain	5,000

(c) The Capital Asset Pricing Model was developed by Sharpe, Mossin and Linter in 1960. The model explains the relationship between the expected return, non-diversifiable risk and the valuation of securities. It considers the required rate of return of a security on the basis of its contribution to the total risk.

It is based on the premises that the diversifiable risk of a security is eliminated when more and more securities are added to the portfolio. However, the systematic risk cannot be diversified and is or related with that of the market portfolio.

All securities do not have same level of systematic risk. The systematic risk can be measured by beta, ß under CAPM, the expected return from a security can be expressed as:

Expected return on security = Rf + Beta (Rm – Rf)

The model shows that the expected return of a security consists of the risk-free rate of interest and the risk premium. The CAPM, when plotted on the graph paper is known as the Security Market Line (SML). A major implication of CAPM is that not only every security but all portfolios too must plot on SML.

This implies that in an efficient market, all securities are having expected returns commensurate with their riskiness, measured by ß.

Relevant Assumptions of CAPM

(i) The investor's objective is to maximize the utility of terminal wealth;

(ii) Investors make choices on the basis of risk and return;

(iii) Investors have identical time horizon;

(iv) Investors have homogeneous expectations of risk and return;

(v) Information is freely and simultaneously available to investors;

(vi) There is risk-free asset, and investor can borrow and lend unlimited amounts at the risk-free rate;

(vii) There are no taxes, transaction costs, restrictions on short rates or other market imperfections;

(viii) Total asset quantity is fixed, and all assets are marketable and divisible.

Thus, CAPM provides a conceptual framework for evaluating any investment decision, where capital is committed with a goal of producing future returns.

(d) Major differences between Islamic finance and other form of finance (Conventional Finance) are as follows:

Basis	Islamic Finance	Conventional Finance
Promotion	Islamic Finance promotes just, fair and balanced society. Hence, interest is prohibited.	Based on commercial objectives, interest must be paid irrespective of outcome of business.
Ethical framework	Structured on ethical and moral framework of Sharia. Verses from the holy Quran and tradition from As-Sunnah are two divine guidance.	No such framework.
Speculation	The financial transactions should be free from the element of uncertainty (Gharar) and gambling (Maisir)	No such restrictions.
Unlawful Goods and Services	Islamic Finance must not be involved in any transactions not allowed as per Islamic principles such as alcohol, armaments, pork and other socially detrimental products.	There are no such restrictions

Question 5

(a) Closing values of BSE Sensex from 6th to 17th day of the month of January of the year 200 X were as follows:

Days	*Date*	*Day*	*Sense x*
1	*6*	*THU*	*29522*
2	*7*	*FRI*	*29925*
3	*8*	*SAT*	*No Trading*
4	*9*	*SUN*	*No Trading*
5	*10*	*MON*	*30222*
6	*11*	*TUE*	*31000*
7	*12*	*WED*	*31400*
8	*13*	*THU*	*32000*
9	*14*	*FRI*	*No Trading*

10	*15*	*SAT*	*No Trading*
11	*16*	*SUN*	*No Trading*
12	*17*	*MON*	*33000*

Compute Exponential Moving Average (EMA) of Sensex during the above period. The 30 days simple moving average of Sensex can be assumed as 30,000. The value of exponent for 30 days EMA is 0.062.

Provide detailed analysis on the basis of your calculations. ***(8 Marks)***

(b) Punjab Bank has entered into a plain vanilla swap through on Overnight Index Swap (OIS) on a principal of ₹ 2 crore and agreed to receive MIBOR overnight floating rate for a fixed payment on the principal. The swap was entered into on Monday, 24th July, 2017 and was to commence on 25th July, 2017 and run for a period of 7 days.

Respective MIBOR rates for Tuesday to Monday were:

8.70%, 9.10%, 9.12%, 8.95%, 8.98% and 9.10%.

If Punjab Bank received ₹ 507 net on settlement, calculate Fixed rate and interest under both legs.

Notes:

(i) Sunday is a Holiday.

(ii) Workout in rounded rupees and avoid decimal working.

(iii) Consider a year consists of 365 days. ***(8 Marks)***

(c) Explain the advantages of bringing venture capital in the company. ***(4 Marks)***

Answer

(a)

Date	1 Sensex	2 EMA for Previous day	3 1-2	4 3×0.062	5 EMA 2 ± 4
6	29522	30000	(478)	(29.636)	**29970.364**
7	29925	29970.364	(45.364)	(2.812)	**29967.55**
10	30222	29967.55	254.45	15.776	**29983.32**
11	31000	29983.32	1016.68	63.034	**30046.354**
12	31400	30046.354	1353.646	83.926	**30130.28**
13	32000	30130.28	1869.72	115.922	**30246.202**
17	33000	30246.202	2753.798	170.735	**30416.937**

Conclusion – The market is bullish. The market is likely to remain bullish for short term to medium term if other factors remain the same. On the basis of this indicator (EMA) the investors/brokers can take long position.

(b)

Day	Principal (₹)	MIBOR (%)	Interest (₹)
Tuesday	2,00,00,000	8.70	4,767
Wednesday	2,00,04,767	9.10	4,987
Thursday	2,00,09,754	9.12	5,000
Friday	2,00,14,754	8.95	4,908
Saturday & Sunday (*)	2,00,19,662	8.98	9,851
Monday	2,00,29,513	9.10	4,994
Total Interest @ Floating			34,507
Less: Net Received			507
Expected Interest @ fixed			34,000
Thus Fixed Rate of Interest			0.0886428
Approx.			8.86%

(*) i.e. interest for two days.

(c) Advantages of bringing VC in the company:

- ❖ It injects long- term equity finance which provides a solid capital base for future growth.
- ❖ The venture capitalist is a business partner, sharing both the risks and rewards. Venture capitalists are rewarded with business success and capital gain.
- ❖ The venture capitalist is able to provide practical advice and assistance to the company based on past experience with other companies which were in similar situations.
- ❖ The venture capitalist also has a network of contacts in many areas that can add value to the company.
- ❖ The venture capitalist may be capable of providing additional rounds of funding should it be required to finance growth.
- ❖ Venture capitalists are experienced in the process of preparing a company for an initial public offering (IPO) of its shares onto the stock exchanges or overseas stock exchange such as NASDAQ.
- ❖ They can also facilitate a trade sale.

Question 6

(a) Omega Ltd. is interested in expanding its operation and planning to install manufacturing plant at US. For the proposed project, it requires a fund of $10 million (net of issue expenses or floatation cost). The estimated floatation cost is 2%. To finance this project, it proposes to issue GDRs.

As a financial consultant, you are requested to compute the number of GDRs to be issued and cost of the GDR with the help of following additional information:

(i) Expected market price of share at the time of issue of GDR is ₹ 250 (Face Value being ₹ 100)

(ii) 2 shares shall underlay each GDR and shall be priced at 4% discount to market price.

(iii) Expected exchange rate ₹ 64/$

(iv) Dividend expected to be paid is 15% with growth rate 12%. ***(8 Marks)***

(b) Neel holds ₹ 1 crore shares of XY Ltd. whose market price standard deviation is 2% per day. Assuming 252 trading days in a year, determine maximum loss level over the period of 1 trading day and 10 trading days with 99% confidence level. Assuming share prices are normally for level of 99%, the equivalent Z score from Normal table of Cumulative Area shall be 2.33. ***(4 Marks)***

(c) Discuss briefly the steps involved in the Securitization mechanism.

OR

Explain the benefits of Securitization from the perspective of both originator as well as the investor. ***(4 Marks)***

(d) The risk free rate of return is 5%. The expected rate of return on the market portfolio is 11%. The expected rate of growth in dividend of X Ltd. is 8%. The last dividend paid was ₹ 2.00 per share. The beta of X Ltd. equity stock is 1.5.

(i) What is the present price of the equity stock of X Ltd.?

(ii) How would the price change when:

- *The inflation premium increases by 3%*
- *The expected growth rate decreases by 3% and*
- *The beta decreases to 1.3.* ***(4 Marks)***

Answer

(a) Net Issue Size = $10 million

$$\text{Gross Issue} = \frac{₹10 \text{ million}}{0.98} = \$10.2041 \text{ million}$$

Issue Price per GDR in ₹ (250 x 2 x 96%)	₹ 480
Issue Price per GDR in $ (₹ 480/ ₹ 64)	$7.50
Dividend Per GDR (D_1) = ₹ 15 x 2 =	₹ 30
Net Proceeds Per GDR = ₹ 480 x 0.98 =	₹ 470.40

(i) Number of GDR to be issued

$$\frac{\$10.2041 \text{ million}}{\$7.50} = 1.360547 \text{ million}$$

(ii) Cost of GDR to Omega Ltd.

$$k_e = \frac{30}{470.40} + 0.12 = 18.378\%$$

(b) Assuming share prices are normally distributed, for level of 99%, the equivalent Z score from Normal table of Cumulative Area is 2.33.

Volatility in terms of rupees is:

2% of ₹ 1 Crore = ₹ 2 lakh

The maximum loss for 1 day at 99% Confidence Level is

₹ 2 lakh x 2.33 = ₹ 4.66 lakh,

and expected maximum loss for 10 trading days shall be:

√10 x ₹ 4.66 lakh = 14.73 lakhs or 14.74 lakhs

(c) The steps involved in securitization mechanism are as follows:

Creation of Pool of Assets: The process of securitization begins with creation of pool of assets by segregation of assets backed by similar type of mortgages in terms of interest rate, risk, maturity and concentration units.

Transfer to SPV: One assets have been pooled, they are transferred to Special Purpose Vehicle (SPV) especially created for this purpose.

Sale of Securitized Papers: SPV designs the instruments based on nature of interest, risk, tenure etc. based on pool of assets. These instruments can be Pass Through Security or Pay Through Certificates.

Administration of assets: The administration of assets in subcontracted back to originator which collects principal and interest from underlying assets and transfer it to SPV, which works as a conduct.

Recourse to Originator: Performance of securitized papers depends on the performance of underlying assets and unless specified in case of default they go back to originator from SPV.

Repayment of funds: SPV will repay the funds in form of interest and principal that arises from the assets pooled.

Credit Rating of Instruments: Sometime before the sale of securitized instruments credit rating can be done to assess the risk of the issuer.

OR

The benefits of securitization can be viewed from the angle of various parties involved as follows:

(A) From the angle of originator: Originator (entity which sells assets collectively to Special Purpose Vehicle) achieves the following benefits from securitization.

(i) Off – Balance Sheet Financing: When loan/receivables are securitized it release a portion of capital tied up in these assets resulting in off Balance Sheet financing leading to improved liquidity position which helps expanding the business of the company.

(ii) More specialization in main business: By transferring the assets the entity could concentrate more on core business as servicing of loan is transferred to SPV. Further, in case of non-recourse arrangement even the burden of default is shifted.

(iii) Helps to improve financial ratios: Especially in case of Financial Institutions and Banks, it helps to manage Capital –To-Weighted Asset Ratio effectively.

(iv) Reduced borrowing Cost: Since securitized papers are rated due to credit enhancement even they can also be issued at reduced rate as of debts and hence the originator earns a spread, resulting in reduced cost of borrowings.

(B) From the angle of investor: Following benefits accrues to the investors of securitized securities.

1. Diversification of Risk: Purchase of securities backed by different types of assets provides the diversification of portfolio resulting in reduction of risk.

2. Regulatory requirement: Acquisition of asset backed belonging to a particular industry say micro industry helps banks to meet regulatory requirement of investment of fund in industry specific.

3. Protection against default: In case of recourse arrangement if there is any default by any third party then originator shall make good the least amount. Moreover, there can be insurance arrangement for compensation for any such default.

(d) (i) Equilibrium price of Equity using CAPM

= 5% + 1.5(11% - 5%)

= 5% + 9%= 14%

$$P=\frac{D_1}{k_e - g}=\frac{2.00(1.08)}{0.14-0.08}=\frac{2.16}{0.06}=₹\ 36$$

(ii) New Equilibrium price of Equity using CAPM (assuming 3% on 5% is inflation increase)

= 5.15% + 1.3(11% - 5.15%)

= 5.15% + 7.61%= 12.76%

$$P=\frac{D_1}{k_e - g}=\frac{2.00(1.05)}{0.1276-0.05}=₹\ 27.06$$

Alternatively, it can also be computed as follows, assuming it is 3% in addition to 5%

= 8% + 1.3(11% - 8%)

= 8% + 3.9%= 11.9%

$$P=\frac{D_1}{k_e - g}=\frac{2.00(1.05)}{0.119-0.05}=₹\ 30.43$$

Alternatively, if all the factors are taken separately then solution of this part will be as follows:

(i) Inflation Premium increase by 3%.

This raises R_X to 17%. Hence, new equilibrium price will be:

$$=\frac{2.00(1.08)}{0.17-0.08}=₹\ 24$$

(ii) Expected Growth rate decrease by 3%.

Hence, revised growth rate stand at 5%:

$$=\frac{2.00(1.05)}{0.14-0.05}=₹23.33$$

(iii) Beta decreases to 1.3.

Hence, revised cost of equity shall be:

= 5% + 1.3(11% - 5%)

= 5% + 7.8%= 12.8%

As a result New Equilibrium price shall be:

$$P=\frac{D_1}{k_e - g}=\frac{2.00(1.08)}{0.128-0.08}=₹\ 45$$