STRATEGIC FINANCIAL MANAGEMENT

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

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

SECTION – A (Compulsory)

1. Choose the correct option: **[15 x 2 = 30]**

(i) Terminal value of the project cash inflows means
- **(a) The sum of the future cash flows after a particular period of time**
- **(b) The present value of the projects' future cash inflows**
- **(c) The sum of the reinvested values of the cash inflows up to the end of the project life**
- **(d) The sum of the reinvested values of the cash inflows up to the end of the project life minus initial outlay**

(ii) Given, expected value of profit without perfect information = ₹1,600 and expected value of perfect information = ₹300, then expected value of profit with perfect information will be _____
- **(a) ₹1,300**
- **(b) ₹1,900**
- **(c) ₹950**
- **(d) None of the above**

(iii) A project requires ₹250,000 investment and will generate ₹100,000 annually for 3 years. Risk-free rate = 8%, risk premium = 6%. Find the Net Present Value (NPV) using the Risk-Adjusted Discount Rate (RADR) method.
- **(a) ₹ 23,140**
- **(b) ₹ –17,860**
- **(c) ₹ 32,140**
- **(d) ₹ –7,860**

(iv) _____ certificate under securitisation have multiple maturity structure.
- **(a) Pass through certificate**
- **(b) Pay through certificate**
- **(c) Preferred stock certificate**
- **(d) Interest only certificate**

(v) The declining market is called 'bear market' because of the
- **(a) Long hibernation period of bears**
- **(b) Traditional usage**
- **(c) Fur coat of the bears**
- **(d) Attacking manner of bears**

(vi) A bond with a face value of ₹1,000 provides 12% annual coupon and pays ₹1,050 at maturity in 10 years. If the investor requires a 13% return, at what price should the company issue the bond?
- **(a) ₹1,008.67**
- **(b) ₹960.87**
- **(c) ₹1,050.00**
- **(d) ₹1,200.00**

(vii) **If the risk-free rate is 10% and the expected return on the market portfolio is 15%, what is the expected return of a portfolio with a beta of 0.10?**

(a) **10.0%**
(b) **10.5%**
(c) **11.0%**
(d) **15.0%**

(viii) **XYZ Ltd. has an unlevered beta of 0.6. The company has debt of ₹600 lakh and equity of ₹800 lakh. The corporate tax rate is 20%. What is the levered beta of the company?**

(a) **0.84**
(b) **1.00**
(c) **1.80**
(d) **0.96**

(ix) **If the share of BA Ltd. (F. V. ₹10) quotes ₹920 on NSE, and the 3 months futures price quotes at ₹950, and the borrowing rate is given as 8% and the expected annual dividend yield is 15% p.a. payable before expiry, then the price of 3-month BA Ltd. futures would be**

(a) **₹948.40**
(b) **₹939.90**
(c) **₹938.50**
(d) **₹936.90**

(x) **A borrower has a floating rate loan tied to LIBOR and wants protection against rising interest rates. Which instrument should the borrower purchase?**

(a) **Interest rate cap**
(b) **Interest rate floor**
(c) **Interest rate collar**
(d) **Interest rate swap**

(xi) **M buys a call option contract for a premium of ₹200. The exercise price is ₹25 and the current market price of the share is ₹22. If the share price after three months reaches ₹30, what is the profit made by M on exercising the option? A contract is for 100 shares. Ignore transaction charges.**

(a) **₹200**
(b) **₹300**
(c) **₹100**
(d) **₹600**

(xii) **_____ is a private arrangement between lending banks and a borrower.**

(a) **Club loan**
(b) **Multiple component facility**
(c) **Syndicated Euro credit**
(d) **All of the above**

(xiii) **The following rates are prevailing: Euro/$:1.1916/1.1925 and $/£:1.42/1.47 what will be the cross rate between Euro/Pound?**

(a) £1.6921 / 1.7530
(b) £1.7530/1.6921
(c) £1.6921/1.1925
(d) £1.7530/1.1916

(xiv) The current spot rate for the U.S. dollar is ₹66. The expected inflation rate is 6.5% in India and 3% in USA. The expected rate of dollar a year hence is –
(a) ₹67.50
(b) ₹68.24
(c) ₹69.50
(d) ₹70.05

(xv) UPI stands for _____.
(a) United Payment Interface
(b) Unified Payment Interface
(c) Unique Payment Interface
(d) Utility Payment Interface

Answer:

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)
c	b	b	b	d	b	b	d	d	a	b	a	a	b	b

SECTION – B

(Answer any five questions out of seven questions given. Each question carries 14 marks.)

[5 x 14 = 70]

2. (a) Z Ltd. is considering two mutually exclusive projects, Project A and Project B, each costing ₹60 lakhs. The expected cash inflows and discount factors at a cost of capital of 15% are given below:

At the end of the year	Project A (₹)	Project B (₹)	P.V. @ 15%
1	60	100	0.870
2	110	130	0.756
3	120	50	0.658
4	50	-	0.572

Additional Information:
Life of Project A = 4 years
Life of Project B = 3 years
Salvage value = NIL for both projects
Tax rate = 33.99%
Cost of capital = 15%
Required:
1. **Calculate the Net Present Value (NPV) for both Project A and Project B.**
2. **Based on the NPVs, advise which project Z Ltd. should accept, assuming the projects are mutually exclusive?**

[7]

(b) Fair finance, a leasing company, has been approached by a prospective customer intending to acquire a machine whose Cash Down price is ₹3 crores. The customer, in order to leverage his tax position, has requested a quote for a three-year lease with rentals payable at the end of each year but in a diminishing manner such that they are in the ratio of 3: 2: 1. Depreciation can be assumed to be on straight line basis and Fair Finance's marginal tax rate is 35%. The target rate of return for Fair Finance on the transaction is 12%.

Calculate the lease rents to be quoted for the lease for three years.

[7]

Answer:

(a) Computation of Net Present Value of the Project A **(₹ lakhs)**

Particulars	Year 1	Year 2	Year 3	Year 4
1. Cash Inflows	60.00	110.00	120.00	50.00
2. Depreciation	15.00	15.00	15.00	15.00
3. PBT (1-2)	45.00	95.00	105.00	35.00
4. Tax @ 33.99%	15.30	32.29	35.70	11.90
5. PAT (3-4)	29.70	62.71	69.30	23.10
6. Net Cash Inflows (PAT + Depreciation)	44.70	77.71	84.30	38.10
7. Discounting Factor	0.870	0.756	0.658	0.572
8. P.V of Net Cash Inflows	38.89	58.75	55.47	21.79
9. Total P.V. of Net Cash Inflows				174.9
10. P.V. of Cash Out Flow (Initial Investment)				60.00
11. Net Present Value (9-10)				114.9

Computation of Net Present Value of the Project B **(₹ lakhs)**

Particulars	Year 1	Year 2	Year 3
1. Cash Inflows	100.00	130.00	50.00
2. Depreciation	20.00	20.00	20.00
3. PBT (1-2)	80.00	110.00	30.00
4. Tax @ 33.99%	27.19	37.39	10.20
5. PAT (3-4)	52.81	72.61	19.80
6. Net Cash Inflows (PAT + Depreciation)	72.81	92.61	39.80
7. Discounting Factor	0.870	0.756	0.658
8. P.V of Net Cash Inflows	63.345	70.013	26.188
9. Total P.V. of Net Cash Inflows			159.546
10. P.V. of Cash Out Flow (Initial Investment)			60.00
11.Net Present Value (9-10)			99.546

Advise: As Project A has a higher Net Present Value, it has to be taken up.

(b) Capital sum to be placed under Lease

Particulars	₹ in lakhs
Cash Down price of machine	300.00
Less: PV of depreciation tax shield [100 × 0.35 × PVIFA (12%, 3 years) = 35 × 2.4018]	84.06
	215.94

If the normal annual lease rent per annum is x, then cash flow will be:

Year	Post-tax cash flow	P.V. of post-tax cash flow
1	3x × (1 – .35) = 1.95x	1.95 × (1/1.12) = 1.7411x
2	2x × (1 – .35) = 1.3x	1.30 × [(1/(1.12)^2] = 1.0364x
3	x × (1 – .35) = 0.65x	0.65 × [1/(1.12)^3] = 0.4626x
		= 3.2401x

Therefore 3.2401 x = 215.94
or, x = ₹66.6409 lakhs

Year-wise rentals are as follows: (₹in lakhs)

Year 1	3 × 66.6409 lakhs	199.9227
Year 2	2 × 66.6409 lakhs	133.2818
Year 3	1 × 66.6409 lakhs	66.6409

3. (a) Cyber Company is considering two mutually exclusive projects. Investment outlay of both the projects is ₹5,00,000 and each is expected to have a life of 5 years. Under three possible situations their annual cash flows and probabilities are as under:

		Cash Flow	
Situation	**Probabilities**	**Project A**	**Project B**
Good	**0.3**	**6,00,000**	**5,00,000**
Normal	**0.4**	**4,00,000**	**4,00,000**
Worse	**0.3**	**2,00,000**	**3,00,000**

The cost of capital is 9%. Recommend which project should be accepted, and discuss your answer with appropriate workings. **[7]**

(b) You have been reading about Software Ltd. which currently retains 90 per cent of its earnings (₹5 a share this year). It earns a ROE of almost 30 percent.
(i) Assuming a required rate of return of 14 percent, calculate how much you would pay for the share on the basis of the earnings multiplier model.
(ii) Calculate how much you would pay for the stock if its retention rate is 60 percent and its return on equity (ROE) is 19 percent.

[7]

Answer:

(a) Project A

Expected Net Cash flow (ENCF) = 0.3(6,00,000) + 0.4(4,00,000) + 0.3(2,00,000) = 4,00,000

$\sigma^2 = 0.3(6,00,000 - 4,00,000)^2 + 0.4(4,00,000 - 4,00,000)^2 + 0.3(2,00,000 - 4,00,000)^2$

$\sigma^2 = 24,00,00,00,000$

$\sigma = 1,54,919.33$

ENPV = 4,00,000 × 3.890 = 15,56,000

NPV = 15,56,000 – 5,00,000 = 10,56,000

Project B

ENCF = 0.3 (5,00,000) + 0.4 (4,00,000) + 0.3 (3,00,000) = 4,00,000

$\sigma^2 = 0.3(5,00,000 - 4,00,000)^2 + 0.4(4,00,000 - 4,00,000)^2 + 0.3(3,00,000 - 4,00,000)^2$

$\sigma^2 = 6,00,00,00,000$

$\sigma = 77,459.66$

ENPV = 4,00,000 × 3.890 = 15,56,000

NPV = 15,56,000 – 5,00,000 = 10,56,000

Recommendation:

NPV in both projects being the same, the project should be decided on the basis of standard deviation and hence project 'B' should be accepted having lower standard deviation, means less risky.

(b) (i) Required rate of return (k) = 14%

Return on Equity (ROE) = 30%

Retention Rate (RR) = 90%

Earnings per share = ₹5.00

Then growth rate = RR × ROE = 0.90 × 0.30 = 0.27

$P/E = \frac{D/E}{k-g} = \frac{0.10}{0.14-0.27}$

Since, the required rate of return (k) is less than the growth rate (g), the earnings multiplier cannot be used.

(ii) However, if ROE = 0.19 and RR = 0.60

then, Growth rate = 0.60 × 0.19 = 0.114

$P/E = \frac{0.40}{0.14-0.114} = \frac{0.40}{0.026} = 15.38$

If next year's earnings are expected to be:

₹5.57 = ₹5.00 × (1 + 0.114)

Applying the P/E ratio: Price = 15.38 × 5.57

=₹85.69

Thus, you would be willing to pay up to ₹85.69

4. (a) A company issues Zero coupon bond of 10 years' maturity. Issue price ₹260. Maturity value ₹1,000. Ignore tax. Calculate YTM? [7]

(b) The following particulars are furnished about three Mutual Fund Schemes, P, Q and R

Particulars	Scheme P	Scheme Q	Scheme R
Dividend Distributed	₹1.75	___	₹1.30
Capital Appreciation	₹2.97	₹3.53	₹1.99
Opening NAV	₹32.00	₹27.15	₹23.50
Beta	1.46	1.10	1.40

Calculate the Alpha of the three schemes and evaluate their performance, if Government of India Bonds carry an interest rate of 6.84% and the NIFTY has increased by 12.13%.

[7]

Answer:

(a) Present value of ₹1,000 to be received after 10 years = ₹260

PV of ₹1 to be received after 10 years = 0.26. Consulting the PVF table, we find that the rate of interest in this case is in the range of 14% to 15%.

NPV at 14 % = -260+ (1000 × 0.270) = + 10

As NPV (at 14%) is positive, this shows that the return is greater than 14%.

Let calculate NPV at 15%.

NPV at 15% = - 260 + (1000 × 0.247) = -13

As NFV (at 15%) is negative, this shows that the return is less than 15%. We can find the exact return (called YTM. also called current interest rate) through interpolation.

YTM or current interest rate:

$$= \text{Lower rate} + \frac{Lower\ rate\ NPV}{(Lower\ rate\ NPV - Higher\ rate\ NPV)} \times (\text{difference in rates})$$

$$= 14 + \frac{10}{10 - (-13)} \times 1 = 14.43\%$$

(b)

Particulars	Scheme P	Scheme Q	Scheme R
Dividend Distributed	₹1.75	___	₹1.30
Add: Capital Appreciation	₹2.97	₹3.53	₹1.99
Total Return [A]	₹4.72	₹3.53	₹3.29
Opening NAV [B]	₹32.00	₹27.15	₹23.50
Actual Return [A] ÷ [B] = [C]	14.75% [4.72 ÷32.00]	13.00% [3.53 ÷ 27.15]	14.00% [3.29 ÷ 23.50]
Beta [D]	1.46	1.10	1.40
Expected Return under CAPM [E(R_P)] [E] $R_F + \beta_P \times (R_M - R_F)$ = 6.84 + [D] × (12.13 - 6.84)	14.56% [6.84 + 1.46 × (12.13 – 6.84]	12.66% [6.84 + 1.10 × 12.13 – 6.84]	14.25% [6.84 + 1.40 × (12.13 – 6.84]

Jensen's Alpha (σ_p) [C] – [E] 0.19%	0.19% (14.75-14.56)	0.34% (13.00-12.66)	(0.25%) (14.00-14.25)
Ranking	2	1	3

5. (a) A portfolio management services manage a stock fund consisting of five stocks with the following market values, betas and expected returns:

Stock	Market value (₹)	Beta	Expected Return
A	**2,00,000**	**1.10**	**15%**
B	**1,00,000**	**0.75**	**14%**
C	**1,50,000**	**0.90**	**15%**
D	**2,50,000**	**1.20**	**16%**
E	**3,00,000**	**1.40**	**17%**

Critically assess the portfolio's expected return using the CAPM, given a risk-free rate of 9% and a market return of 15%, and evaluate which stocks are undervalued or overvalued.

[7]

(b) A fund had a value of ₹1000 on 1st January 2022. A net cash flow of ₹170 was received on 1st January 2023 and a further ₹500 on 1st January 2024. The value of the fund on 31st December 2022 was ₹1030 and on 31st December 2023 it was ₹1200.

(i) Using the fund value on 1st January 2022, calculate the value of the fund on 31st December 2024 so that the MWROR earned on the fund between 1st January 2022 and 31st December 2024 is 3% per annum.

(ii) Calculate the TWROR between the 1st January 2022 and 31st December 2024. Assume that the value of the fund on 31st December was ₹1788.08. [7]

Answer:

(a) **(I)** In order to calculate the fund's expected return with CAPM, we need the fund's beta. This can be determined with the following equation.

$\beta_p = W_i B_i$

W_i is the weight for the 'i'th security and B_i, is the beta co-efficient of the 'i'th security.

W_A = 2,00,000/10,00,000 = 0.20
W_B = 1,00,000/10,00,000 = 0.10
W_c= 1,50,000/10,00,000 = 0.15
W_D = 2,50,000/10,00,000 = 0.25
W_E=3,00,000/10,00,000 = 0.30
1.00

β_p = (0.20) (1.1) + (0.10) (0.75) + (0.15) (0.90) + (0.25) (1.20) + (0.30) (1.40)
= 0.22 +0.075 +0.135 +0.3 +0.42 = 1.15

$E(R_p) = R_f + [(ER_m - R_f)] \times ßp = 9 + (15 - 9) \times 1.15 = 15.90\%$.

(II) To find whether the stock is undervalued or overvalued we should first determine the return for each stock that is consistent with equilibrium using the CAPM.

$E(R_i) = R_f + (R_m - R_f) \times ß_i$

$E(R_A) = 9 + (15-9) \times 1.10 = 15.60\%$ (overvalued)

$E(R_B) = 9 + (15-9) \times 0.75 = 13.50\%$ (undervalued)

$E(R_C) = 9 + (15-9) \times 0.90 = 14.40\%$ (undervalued)

$E(R_D) = 9 + (15-9) \times 1.20 = 16.20\%$ (overvalued)

$E(R_E) = 9 + (15-9) \times 1.40 = 17.40\%$ (overvalued)

Securities A, D and E are overvalued because the expected return is less than the equilibrium return, whereas securities B and C are undervalued because their equilibrium return is less than their expected value.

(b) **(i)** Value of the fund on 31st December 2024 (F_T):

$$F_T = F_0(1+i)^T + C_{t_1}(1+i)^{T-t_1} + C_{t_2}(1+i)^{T-t_2} + ... + C_{t_n}(1+i)^{T-t_n}$$

$F_T = 1000\ (1.03)^3 + 170\ (1.03)^2 + 500\ (1.03)$

$F_T = (1.0927 \times 1000) + (170 \times 1.0609) + 515$

$F_T = 1092.73 + 180.35 + 515$

$F_T = ₹1788.08$

(ii) Calculation of TWROR:

$$i = \left[\frac{1030}{1000} \times \frac{1200}{1030+170} \times \frac{1788.08}{1200+500}\right]^{1/3} - 1$$

Solving i = 2.7%

6. (a) Evaluate the given data and judge the appropriate figures needed to fill the blanks in the following matrix.

Case	Portfolio Value	Existing Beta	Outlook	Activity	Desired Beta	No. of Futures Contacts
M	**?**	**1.20**	**Bullish**	**?**	**1.8**	**90**
N	**₹3,60,00,000**	**?**	**?**	**Buy Index Futures**	**2.3**	**45**
O	**₹2,00,00,000**	**1.60**	**?**	**?**	**1.2**	**?**
P	**₹6,40,00,000**	**1.10**	**Bullish**	**?**	**?**	**48**

S&P index is quoted at 4000 and the lot size is 100.

[7]

(b) Calculate the value of option, both call and put, on expiry for the stock of Nirmal Spice Foods (NSF) Ltd. From the following information-

- **Exercise Price – ₹510**

- **Spot Price on Exercise Date Ranges between ₹495 and ₹525, with interval of ₹5.**

Also evaluate what will be the action on the above range of prices for both the options. [7]

Answer:

(a)

Case	Portfolio Value	Existing Beta	Outlook	Activity	Desired Beta	No. of Futures Contacts
M	₹6,00,00,000	1.20	Bullish	Buy Index Futures	1.8	90
N	₹3,60,00,000	1.80	Bullish	Buy Index Futures	2.3	45
O	₹2,00,00,000	1.60	Bearish	Sell Index Futures	1.2	20
P	₹6,40,00,000	1.10	Bullish	Buy Index Futures	1.4	48

Value per Futures Contract = Index Price per Unit × Lot Size per Futures Contract = ₹4000 × 100 =₹4 Lakhs

(1) Case M

(a) Inference: Outlook is Bullish and the desired Beta is more than the existing Beta. Therefore, Index Futures Contract should be bought.

(b) Number of Futures Contract = Portfolio Value × $\frac{Desired\ Value\ of\ Beta - Beta\ of\ the\ Portfolio}{Value\ of\ a\ Futures\ Contract}$

$N_F = Vp \times \frac{\beta N - \beta E}{VF}$

90 = V_P × (1.80 – 1.20) / ₹4 Lakhs

0.60 V_P = 90 × ₹4 Lakhs

V_P = ₹3.60 Crores ÷ 0.60 = ₹600 Lakhs

(2) Case N

(a) Inference: Activity is to Buy Index Futures. Therefore, outlook is bullish. Therefore, existing Beta should be lower

(b) Number of Futures Contract = Portfolio Value × $\frac{Desired\ Value\ of\ Beta - Beta\ of\ the\ Portfolio}{Value\ of\ a\ Futures\ Contract}$

$N_F = V_p \times \frac{\beta N - \beta E}{VF}$

45 = ₹3.60 Cr. × (2.30 – β_E) ÷ ₹4 Lakhs

45 × ₹4 Lakhs = ₹3.60 Cr. × (2.30 - β_E)

2.30 – β_E = ₹1.80 Crores ÷ ₹3.60 Crores

2.30 – β_E = 0.50

β_E = 2.30 – 0.50 = 1.80

(3) Case O

(a) Inference: Desired Beta is lower than existing Beta. Therefore, Outlook is bearish and apt activity is to sell index futures.

(b) Number of Futures Contract =

Number of Futures Contract = Portfolio Value × $\frac{Beta\ of\ the\ Portfolio - Desired\ Value\ of\ Beta}{Value\ of\ a\ Futures\ Contract}$

$N_F = V_p \times \frac{\beta E - \beta N}{VF}$

N_F = ₹2.00 Cr. × (1.60 – 1.20)/ ₹4 Lakhs

N_F = ₹2.00 Cr. × 0.40/₹4 lakhs

N_F = ₹80 Lakhs/₹4 Lakhs = 20 contracts

(4) Case P

(a) Inference: Desired Beta is lower than existing Beta. Therefore, Outlook is bearish and apt activity is to buy index futures.

(b) Number of Futures Contract = Portfolio Value × $\frac{Desired\ Value\ of\ Beta - Beta\ of\ the\ Portfolio}{Value\ of\ a\ Futures\ Contract}$

$N_F = V_p \times \frac{\beta N - \beta E}{VF}$

48 = ₹6.40 Cr. × (β_N – 1.10) / ₹4 Lakhs

48 = 1.60 × (β_N – 1.10)

48/160 = β_N – 1.10

0.30 = β_N – 1.10

β_N = 1.10 + 0.30 = 1.40

(b) 1. Call Option (Right to Buy)

Situation	Exercise Price (EP) (₹)	Spot Price on Expiry Date (SPE) (₹)	Value of Call [Maximum of (SPE - EP), 0] (₹)	Action
(1)	(2)	(3)	(4) =Max [(3)– (2), 0]	(5)
A	510	495	495 – 510 = – 15 → 0	Lapse
B	510	500	500 – 510 = – 10 → 0	Lapse
C	510	505	505 – 510 = – 5 → 0	Lapse
D	510	510	510 – 510 = 0 → 0	Lapse
E	510	515	515 – 510 = 5 → 5	Exercise
F	510	520	520 – 510 = 10 → 10	Exercise
G	510	525	525 – 510 = 15 → 15	Exercise

2. Put Option (Right to Sell)

Situation	Exercise Price (EP) (₹)	Spot Price on Expiry Date (SPE) (₹)	Value of Call [Maximum of (EP -SPE), 0] (₹)	Action
(1)	(2)	(3)	(4) =Max [(2)– (3), 0]	(5)
A	510	495	510 – 495 = 15 → 15	Exercise
B	510	500	510 – 500 = 10 → 10	Exercise
C	510	505	510 – 505 = 5 → 5	Exercise
D	510	510	510 – 510 = 0 → 0	Lapse
E	510	515	510 – 515 = –5 → 0	Lapse
F	510	520	510 – 520 = –10 → 0	Lapse
G	510	525	510 – 520 = –15 → 0	Lapse

7. (a) Evaluation of Forward Premium – Encashing Foreign Currency Deposits – The following 2 – way quotes appear in the foreign exchange market –

	Spot Rate	2-Months Forward
₹/ US $	₹46.00/ ₹46.25	₹47.00/ ₹47.50

Critically assess the exchange rate information to determine:
(I) The amount of US Dollars to be sold for realizing ₹25 lakhs after two months.
(II) The Rupee amount payable to purchase US $2,00,000 in the spot market.
(III) Whether it is financially advantageous for the firm to encash its US $69,000 immediately or defer for two months, given a 10% annual return on Rupee investments.

[7]

(b) A company is considering hedging its foreign exchange risk. It has made a purchase on 1st July, 2024 for which it has to make a payment of US$ 60,000 on December 31, 2024. The present exchange rate is 1 US $ = ₹85. It can purchase forward 1 $ at ₹ 84. The company will have to make an upfront premium @ 2% of the forward amount purchased. The cost of funds to the company is 12% per annum.
In the following situations, calculate the profit/loss the company will make if it hedges its foreign exchange risk with the exchange rate on 31st December, 2024 as:
(i) ₹88 per US $.
(ii) ₹82 per US $.
(iii) ₹90 per US $.
(iv) ₹85 per US $.

[7]

Answer:

(a) (I) US dollars for ₹25 Lakhs in the forward Market

Action	Sell Foreign Currency in Forward Market
Relevant Rate	Forward Bid Rate = ₹47.00
US $ Required to get ₹25,00,000	₹25,00,000 ÷ ₹47.00 = US $ 53,191.49

(II) Rs. Required to obtain US dollars 2,00,000 in the Spot Market

Action	Buy Foreign Currency in Spot Market
Relevant Rate	Spot Ask Rate =₹46.25
Rupees Required to obtain US$2,00,000	US $ 2,00,000 × ₹46.25 = ₹92,50,000

(III) Evaluation of Investment in Rupees

Forward Premium (For Bid Rates)

= (Forward Rate ₹47 – Spot Rate ₹46)/ Spot Rate ₹46 × 12/2 × 100 = 13.04%

Observation and conclusion: Annualized Forward Premium for Bid Rates (13.04%) is greater than the Annual Return on Investment in Rupees (10%). Therefore, the firm should not encash its US $ balance now. It should sell the US $ in the forward market and enc ash them two months later.

(b) (i)

	₹
Present Exchange Rate ₹85 = 1 US$	
If company purchases US$ 60,000 forward premium is 60000 × 84 × 2%	1,00,800
Interest on ₹1,00,800 for 6 months at 12%	6,048
Total hedging cost	1,06,848
(i) If exchange rate is ₹88	
Then gain (₹88 – ₹84) for US$ 60,000	2,40,000
Less: Hedging cost	1,06,848
Net gain	1,33,152
(ii) If US$ = ₹82	
Then loss (₹84 – ₹82) for US$ 60,000	1,20,000
Add: Hedging Cost	1,06,848
Total Loss	2,26,848
(iii) If US$ = ₹90	
Then Gain (₹90– ₹84) for US$ 60,000	3,60,000
Less: Hedging Cost	1,06,848
Total Gain	2,53,152
(iv) If US$ = ₹85	
Then Gain (₹85 – ₹84) for US$ 60,000	60,000
Less: Hedging Cost	1,06,848
Net Loss	46,848

8. Short Notes on:

(a) Discuss the Disadvantages of Cryptocurrency. [5]

(b) Discuss the concept of Foreign Currency Convertible Bonds (FCCBs) and explain their benefits. [5]

(c) Discuss the concept of a Sale and Lease Back Agreement. [4]

Answer:

(a) The Disadvantages of Cryptocurrency include the following:

i. Though they claim to be an anonymous form of transaction, cryptocurrencies are actually pseudonymous. They leave a digital trail.
ii. Cryptocurrencies may facilitate money laundering and hence are popular tool with criminals.
iii. In reality, cryptocurrency ownership is highly concentrated. For example, an MIT study found that just 11,000 investors held roughly 45% of Bitcoin's surging value.
iv. Mining popular cryptocurrencies requires considerable energy, sometimes as much energy as entire countries consume. So, cryptocurrencies are not environment friendly.
v. Cryptocurrencies traded in public markets suffer from extreme price volatility.
vi. Though cryptocurrency blockchains are highly secure, other crypto repositories, such as exchanges and wallets, can be hacked. Many cryptocurrency exchanges and wallets have been hacked over the years, sometimes resulting in millions of dollars' worth of "coins" stolen.

(b) Foreign Currency Convertible Bonds (FCCBs):

Foreign currency convertible bonds, as the name suggests, are bonds that are issued in a currency foreign to the investor. The name also suggests that the bonds are convertible in nature, indicating that investors not only receive principal and coupon payments but also offer the option of converting their bonds into stocks. Foreign currency convertible bonds are classified as quasi-debt instruments and tradable on the stock exchange. Investors are hedge- fund arbitrators or foreign nationals.

Benefits of FCCBs:

1) The coupon rates on FCCB's are generally lower than traditional bank interest rates, reducing the cost of debt financing for the issuer.
2) When converted, the issuer is able to reduce its debt gains additional, much-needed equity capital.
3) If there is a favorable move in the exchange rate, the issuer may benefit from a reduction in the cost of debt.
4) Investors have an assured minimum fixed rate of return.
5) Investors can participate in any price appreciation in the issuer's stock upon conversion.
6) Investors enjoy the flexibility in choosing to enter the capital market or receiving a stable stream of income through bond payments (coupons).

(c) Sale and Lease Back Agreement:

Under this type of lease agreement, the lessee first purchases the equipment of his choice and then sells it to the lessor firm. The lessor in turn leases out the asset to the same lessee. The main advantage of this method is that the lessee can be rest assured about the quality of the asset and can convert the sale into a lease arrangement after he has the possession of the asset. He can exercise this option even in the case of an existing asset used by him for some time to get a lumpsum cash released from the asset which he can put into some alternative use. The lessor gets the tax benefit for depreciation. This method of financing an asset is also popular when the lessee is in liquidity problems, he can sell the asset to a leasing company and take it back on lease. The fund released therefrom will improve the liquidity position of the lessee and he will continue to use the asset without parting with it.