FINAL EXAMINATION

ANSWERS TO PRACTICE TEST PAPER **TERM – JUNE 2026**

PAPER – 14 **SYLLABUS 2022**

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) **K Ltd. is considering a new project with an initial outlay of ₹70,000. The project has a lifespan of four years with cash inflows of ₹25,000, ₹30,000, ₹18,000 and ₹16,000 for year 1, 2, 3 and 4 respectively. If the cost of capital is 10% per annum, the Profitability Index (PI) of the project will be:**

(a) **1.0278**
(b) **0.9728**
(c) **0.7865**
(d) **1.2714**

(ii) **Given, expected value of profit without perfect information is ₹2,300 and expected value of perfect information is ₹500, the expected value of profit with perfect information will be _____**

(a) **₹1800**
(b) **₹2800**
(c) **₹2300**
(d) **None of the above**

(iii) **The following information is available with respect to Project X**

NPV Estimate (₹)	40,000	50,000	1,40,000	1,50,000
Probability	0.1	0.4	0.3	0.2

The expected NPV of the project will be:

(a) **₹1,00,000**
(b) **₹90,000**
(c) **₹96,000**
(d) **₹1,20,000**

(iv) **Which of the following certificates issued under securitisation has a multiple-maturity structure?**

(a) **Pass through certificate**
(b) **Pay through certificate**
(c) **Preferred stock certificate**
(d) **Interest only certificate**

(v) **Degree of financial leverage (DFL) expresses the relationship between:**

(a) **EPS and EAIT**
(b) **EPS and P/E**
(c) **EPS and EBIT**
(d) **EPS and Sales**

(vi) **A bond with a par value of ₹1,000 has a 6% annual coupon rate. Interest is paid semi-annually and the price of the bond is ₹1,025. The annual current yield of the bond is:**

(a) **3.0%**
(b) **2.9%**
(c) **6.2%**
(d) **5.9%**

(vii) Which type of risk is substantially reduced by holding a well-diversified portfolio?

(a) Total risk
(b) Systematic risk
(c) Non-systematic risk
(d) None of the above

(viii) A firm has a capital structure consisting of 60% equity and 40% debt. The unlevered beta is 1.00 and the corporate tax rate is 25%. The levered beta of the firm will be:

(a) 1.30
(b) 1.40
(c) 1.50
(d) 1.60

(ix) Mr. X is long on a forward contract to purchase a non-dividend paying share after 3 months. The current market price of the share is ₹70. The risk-free rate of interest is 6% per annum, continuously compounded. The theoretical forward price of the share is:

(a) ₹ 70.90
(b) ₹ 71.90
(c) ₹ 71.06
(d) ₹ 72.10

(x) DY has purchased a ₹400 million cap (call option on interest rates) with a strike rate of 9% at a premium of 0.65% of face value. A ₹400 million floor (put option on interest rates) with a strike rate of 4% is also available at a premium of 0.69% of face value. If the market interest rate rises to 10%, what is the amount received by DY under the cap, and what are the net savings after deducting the premium?
(Assume annual settlement.)

(a) Amount received ₹4.00 million; Net savings ₹1.40 million
(b) Amount received ₹3.60 million; Net savings ₹1.00 million
(c) Amount received ₹4.00 million; Net savings ₹0.80 million
(d) Amount received ₹2.60 million; Net savings ₹1.40 million

(xi) If you sell a call option on a share with a strike price of ₹375, market price of ₹360, and a premium of ₹21.What is the maximum loss on expiry of this position?

(a) ₹354
(b) Unlimited
(c) ₹396
(d) None of these

(xii) Depository Receipts represent_____.

(a) Debentures
(b) Bonds
(c) Equity shares of a company
(d) Government securities

(xiii) In foreign exchange markets, the buying rate is also known as the:

(a) Bid rate
(b) Offer rate
(c) Spread
(d) Swap

(xiv) The US Dollar is selling in India at ₹45.20. The interest rate for 6-months borrowing in India is 10% p.a. and the corresponding rate in the USA is 4% p.a. Using the Interest Rate Parity Theory, the rate of forward premium / (discount) on the US Dollar will be:

(a) 5.93%
(b) 5.88%
(c) (5.17%)
(d) (5.52%)

(xv) In India, the regulation of payment and settlement systems is governed by the:

(a) RBI Act, 1934
(b) Banking Regulation Act, 1949
(c) Payment and Settlement Systems Act, 2007
(d) SBI Act, 1955

Answer:

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

SECTION – B

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

[5 x 14 = 70]

2. (a) Summit Appliances Ltd. is evaluating three potential investment projects:

Project 1: Produce a new line of aluminium skillets.
Project 2: Expand the existing appliance line to include several new sizes.
Project 3: Develop a new, higher-quality line of premium kitchen appliances.

If undertaken individually, the expected investments and present values of future cash flows are as follows:

Project	Investment required	Present value of Future Cash-Flows
	₹	₹
1	2,00,000	2,90,000
2	1,15,000	1,85,000
3	2,70,000	4,00,000

- **If projects 1 and 2 are undertaken together, there are no economies; the total investment and present value are the sum of the individual projects.**
- **If projects 1 and 3 are undertaken together, economies of investment exist, as one machine can be used for both projects. The total combined investment is ₹4,40,000.**

- **If projects 2 and 3 are undertaken together, economies exist in marketing and production, but not in investment. The expected present value of cash flows is ₹6,20,000.**
- **If all three projects are undertaken simultaneously, the above economies still apply, but an additional plant extension of ₹1,30,000 is required.**

Calculate the Net Present Value (NPV) of each project combination and recommended which project(s) the company should undertake. **[7]**

(b) **P Ltd has taken a plant on lease, valued at ₹40 crore. The lease arrangement is in the form of a leveraged lease. K Ltd. is the equity participant and the H Ltd. is the loan participant. They invested fund in the ratio of 1:4. The loan from H Ltd. carries a fixed rate of interest of 15 percent, payable in 6 equated annual instalments. The lease term is 6 years, with lease rental payable annually in arrears.**

Required:

(i) Compute the equated annual instalment from the point of view of H Ltd.

(ii) If the lease rate is unknown, and H Ltd.'s pre-tax yield is 20 percent, calculate the minimum lease rent per year that must be quoted by P Ltd. **[7]**

Answer:

(a) Calculation of NPV:

Project	Investment Required (₹)	Present Value of Future Cash Flows (₹)	Net Present Value (₹)
1	2,00,000	2,90,000	90,000
2	1,15,000	1,85,000	70,000
3	2,70,000	4,00,000	1,30,000
1 and 2	3,15,000	4,75,000	1,60,000
1 and 3	4,40,000	6,90,000	2,50,000
2 and 3	3,85,000	6,20,000	2,35,000
1, 2 and 3*	6,85,000	9,10,000	2,25,000

***Working Note:**

(i) Total Investment required if all the three projects are undertaken simultaneously:

	(₹)
Project 1 & 3	4,40,000
Project 2	1,15,000
Plant extension cost	1,30,000
Total Investment	6,85,000

(ii) Total of Present value of Cash flows if all the three projects are undertaken simultaneously:

	(₹)
Project 2 & 3	6,20,000
Project 1	2,90,000
Total Present value	9,10,000

Recommendation: Summit Appliances Ltd. should undertake Projects 1 and 3 together, as this combination yields the highest NPV of ₹2,50,000.

(b) Cost of asset = ₹40 crores Debt-equity ratio = 1:4
Loan raised = ₹40 × 4/5 = ₹32 crores Rate of interest = 15% p.a.

(i) Let the equated annual instalment = X Conditionally, X ×PVIFA (15%, 6 years) = 32

or, 3.7845X = 32

or, X = 32/3.7845

or, X = 8.4555423 Crore = ₹8,45,55,423

So, the equated annual instalment is ₹8,45,55,423.

(ii) Let the lease rental be ₹ Y

Equity component of the cost of asset = ₹ 40 × 1/5 = ₹8 crores

So, Net cash flow = Lease rental - Loan instalment = ₹ (Y - 8,45,55,423)

Conditionally, (Y - 8,45,55,423) × PVIFA (20%, 6 years) = 8,00,00,000

or, (Y - 8,45,55,423) × 3.3255 = 8,00,00,000

or, Y - 8,45,55,423 = 2,40,56,533 or, Y = 10,86,11,956

So, the minimum lease rent that must be quoted by H Ltd. is ₹10,86,11,956.

3. (a)

SSK Ltd. is considering undertaking one of two mutually exclusive projects, namely Project BB and Project KK. Both projects have the same economic life and require an equal initial investment of ₹80 lakh each. They are expected to generate almost the same average yield. Since the company is new to this line of business, the future cash flows of the projects cannot be estimated with certainty. Therefore, probability analysis based on cash flow patterns observed from similar projects during the first year of operations has been carried out. It is expected that this pattern will continue throughout the life of the projects. The results of the probability analysis are as follows:

Project BB		Project KK	
Cash Flow (in ₹)	**Probability**	**Cash Flow (in ₹)**	**Probability**
11	**0.10**	**9**	**0.10**
13	**0.20**	**13**	**0.25**
15	**0.40**	**17**	**0.30**
17	**0.20**	**21**	**0.25**
19	**0.10**	**25**	**0.10**

Required:

(i) Calculate variance, standard deviation and co-efficient of variance for both the projects.

(ii) Assess which project is riskier and justify your answer.

[7]

(b) An investor is considering to purchase equity shares of DELTA Ltd. whose current market price is ₹172.45 per share. The company is proposing a dividend of ₹6 for the year ending 31st March, 2025. Delta Ltd. is expected to grow at 20% per annum for the next four years. Thereafter, the growth, over the next three years, will decline linearly by 1% per annum. Thereafter, it will stabilize at a certain growth rate per annum infinitely.

The required rate of return for the investor is 20%.
(Dividend value is to be taken to two decimal points only.)

Given: PVIF @ 20%

Period	1	2	3	4	5	6	7
$PVIF_{(20\%,n)}$	0.8333	0.6944	0.5787	0.4823	0.4019	0.3349	0.2791

Required:

(i) Assess the stable growth rate of DELTA Ltd. after the end of 7 years.
(ii) Advise whether it is worth purchasing the share at this price if the investor has a stable target growth rate of 15% p.a.

[7]

Answer:

(a) (i) Calculation of Variance, Standard Deviation and Coefficient of Variation

Project BB

Step 1: Expected Net Cash Flow

$E(X) = (0.10\times11) + (0.20\times13) + (0.40\times15) + (0.20\times17) + (0.10\times19)$

$=1.1+2.6+6.0+3.4+1.9=15$

Step 2: Variance $\sigma^2=\sum p(x-\bar{x})^2$

$= 0.10(11-15)^2+0.20(13-15)^2+0.40(15-15)^2+0.20(17-15)^2+0.10(19-15)^2$

$= 1.6 + 0.8 + 0 + 0.8 + 1.6 = 4.80$

Step 3: Standard Deviation

$\sigma = \sqrt{4.80} = 2.19$

Step 4: Coefficient of Variation

$CV=\frac{\sigma}{Expected\ Cash\ Flow}$

$=\frac{2.19}{15}$ $=0.146$ (14.6%)

Project KK

Step 1: Expected Net Cash Flow

$E(X) = (0.10\times9) + (0.25\times13) + (0.30\times17) + (0.25\times21) + (0.10\times25)$

$= 0.9+3.25+5.1+5.25+2.5=17$

Step 2: Variance

$\sigma^2=0.10(9-17)^2+0.25(13-17)^2+0.30(17-17)^2+0.25(21-17)^2+0.10(25-17)^2$

$= 0.10(64) +0.25(16) +0+0.25(16) +0.10(64)$

$= 6.4+4.0+0+4.0+6.4=20.80$

Step 3: Standard Deviation

$$\sigma = \sqrt{20.80} = 4.56$$

Step 4: Coefficient of Variation

$$CV=\frac{4.56}{17} =0.268 \text{ (26.8\%)}$$

(ii) Project KK is riskier as it has higher Coefficient of Variation.

(b) (i) Computation of Dividends for 7 years.

$D_1= 6 (1.20) = ₹ 7.20$

$D_2=6(1.20)^2 = ₹ 8.64$

$D_3=6(1.20)^3 = ₹ 10.37$

$D_4= 6(1.20)^4 = ₹ 12.44$

$D_5 = 12.44 (1.19) = ₹ 14.80$

$D_6 = 12.44 (1.19) (1.18) = ₹ 17.47$

$D_7 = 12.44 (1.19) (1.18) (1.17) = ₹ 20.44$

Price at the end of 7th Year:

Year	Dividend (₹)	PVIF@20%	PV (₹)
1	7.20	0.8333	6.00
2	8.64	0.6944	6.00
3	10.37	0.5787	6.00
4	12.44	0.4823	6.00
5	14.80	0.4019	5.95
6	17.47	0.3349	5.85
7	20.44	0.2791	5.70
		TOTAL	41.50
Current Market Price			₹172.45
Less: PV of Dividend up to the year ending 7th year			₹41.50
PV of Expected Market Price at the end of 7th year			₹130.95

Let g be the growth rate,

Then = $130.95 = [20.44 (1 + g) \times 0.2791] / (0.20 – g)$

Or, $130.95 = (5.70 + 5.70g) / (0.20 – g)$

Or, $26.19 – 130.95g = 5.70 + 5.70 g$

Or, $136.65 g = 20.49$

$g= (20.49) / (136.65) = 0.15$ i.e. 15%

Thus, the stable growth rate after the end of 7th year shall be 15%.

(ii) Since the growth rate is equal to target growth rate, it may worth to purchase the share.

4. (a) ASTERA UTILITIES Ltd., a leading energy infrastructure company, has issued a 25-year zero-coupon bond to raise capital for a large-scale hydroelectric power project. The bond does not offer any interim interest payments and will be redeemed at face value upon maturity. However, it comes with embedded options designed to mitigate interest rate risks for both the issuer and the investor. The bond has a face value of ₹1,00,000 and follows annual compounding. The investor's required yield to maturity is structured in a tiered manner:

- **8% per annum for the first 10 years**
- **9% per annum for the next 10 years**
- **10% per annum for the final 5 years**

In addition to its maturity value, the bond includes two embedded options:

Option 1: A call option, allowing Astera Utilities Ltd. to redeem the bond early at the end of Year 15 for ₹1,01,000.

Option 2: A put option, enabling investors to sell the bond back to the company at the end of Year 18 for ₹80,000, if market conditions warrant.

Given: PV Factor

Year	5	8	10
PVIF (8%)	0.6806	0.5403	0.4632
PVIF (9%)	0.6499	0.5019	0.4224
PVIF (10%)	0.6209	0.4665	0.3855

Required

(i) Analyze value of the bond today if the issuer holds at maturity.
(ii) Assess value of the bond if the issuer exercises the call option at the end of Year 15.
(iii) Assess value of the bond if the investor exercises the put option at the end of Year 18.
(iv) Advise on which option is best from the investor's point of view.

[7]

(b) Four friends S, T, U, and V have invested equivalent amount of money in four different funds in tune with their attitude to risk, S prefers to play aggressive and is keen on equity-funds, T is moderately aggressive with a desire to invest upto 50% of his funds in Equity, whereas U does not invest anything beyond 20% in Equity. V, however, relies more on movement of market, and prefers any fund which replicates the market portfolio. Their investment particulars, returns therefrom and Beta of the fund are given below —

Fund Invested	Return for the year	Beta Factor
Money Multiplier Fund (100% Equity)	23.50%	1.80
Balanced Growth Fund (50% Equity - 50% Debt)	16.50%	1.25
Safe Money Fund (20% Equity and 80% Debt Funds)	12.50%	0.60

If the Market Return was 16% and the Risk-Free Return is measured at 7%, evaluate which of the four friends was rewarded better per unit of risk taken. [7]

Answer:

(a) (i) Value of Zero-Coupon Bond till maturity

Present value of bond = Face Value / $(1+r)^n$

= 100000 / [$(1 + 0.08)^{10}$ $(1 + 0.09)^{10}$ $(1 + 0.10)^5$]

= 100000 × 0.4632 × 0.4224 × 0.6209

= ₹ 12148.26

Value of Bond = ₹ 12148.26

(ii) Value of Zero-Coupon Bond if the issuer exercises the call option at the end of Year 15

Present value of bond= Face Value / $(1+r)^n$

= 101000 / [$(1 + 0.08)^{10}$ $(1 + 0.09)^5$]

= 101000 × 0.4632×0.6499

= ₹ 30404.40

Value of Bond = ₹ 30404.40

(iii) Value of Zero-Coupon Bond if the investor exercises the put option at the end of Year 18

Present value of bond = Face Value / $(1 + r)^n$

= 80000 / [$(1 + 0.08)^{10}$ $(1 + 0.09)^8$]

= 80000 × 0.4632 × 0.5019

= ₹ 18598.41

Value of Bond = ₹ 18598.41

(iv) The investor should expect the bond to be held till maturity as lowest present value of bond (12148.26).

(b)

Particulars	S	T	U	V
Risk Free Return [R_F]	7%	7%	7%	7%
Fund Invested	Money Multiplier Fund	Balanced Growth Fund	Safe Money Fund	Market Portfolio
Beta of the Portfolio [β_P]	1.80	1.25	0.60	1.00
Return on Portfolio [R_P]	23.50%	16.50%	12.50%	16.00%
Treynor Measure [(R_P-R_F) ÷ β_P]	9.17 [23.50–7] ÷1.80	7.60 [16.50–7] ÷ 1.25	9.17 [12.50–7] ÷ 0.60	9.00 [16–7] ÷ 1
Ranking	1	3	1	2

Evaluation: Both S and U have earned the same Reward per unit of risk taken, which is more than the Market Reward to Risk of 9.00.

5. (a) Subho has invested in four securities M, N, O and P, the particulars of which are as follows —

Security	**M**	**N**	**O**	**P**
Amount Invested (₹)	**1,25,000**	**1,50,000**	**80,000**	**1,45,000**
Beta (β)	**0.60**	**1.50**	**0.90**	**1.30**

Calculate the expected return on a portfolio if RBI Bonds carries an interest rate of 8% and NIFTY yields 14%. If investment in Security O is replaced by investment in RBI Bonds, calculate the corresponding change in Portfolio Beta and expected return. [7]

(b) A mutual fund starts the year with ₹ 50 million. By 1st year it has appreciated to ₹60 million, at which point it receives cash amounting to ₹ 20. In the second year, the fund appreciates by another 50%.

(i) Calculate the annual Money-Weighted Rate of Return (MWROR).

(ii) Calculate the annual Time-Weighted Rate of Return (TWROR).

(iii) Examine whether the Time-Weighted Rate of Return (TWROR) would increase or decrease if the fund had a cash outflow of ₹20 million at the end of the first year instead of a cash inflow.

[7]

Answer:

(a) (i) Computation of Expected Return on Portfolio (Under CAPM)

(1) Computation of Weighted Beta (Beta of the Portfolio)

Security	Amount Invested (₹)	Proportion of Investment to Total Investment	Beta of Investment	Weighted Beta
(1)	(2)	(3) = (2) ÷ 5,00,000	(4)	(5) = (3) × (4)
M	1,25,000	0.25	0.60	0.150
N	1,50,000	0.30	1.50	0.450
O	80,000	0.16	0.90	0.144
P	1,45,000	0.29	1.30	0.377
Total	5,00,000	1.00		1.121

(2) Computation of Expected Return on Portfolio Expected Return

$[E(R_p)] = R_f + [\beta_p \times (R_m - R_f)]$
$= 8\% + [1.121 \times (14\% - 8\%)]$
$= 8\% + [1.121 \times 6\%]$
$= 8\% + 6.726\%$
$= 14.726\%$

(ii) Computation of Expected Return [Investment in O, replaced by RBI Bonds] (CAPM)

(1) Computation of Weighted Beta (Beta of the Portfolio)

Security	Amount Invested (₹)	Proportion of Investment to Total Investment	Beta of Investment	Weighted Beta
(1)	(2)	(3) = (2) ÷ 5,00,000	(4)	(5) = (3) × (4)
M	1,25,000	0.25	0.60	0.150
N	1,50,000	0.30	1.50	0.450
RBI Bonds	80,000	0.16	0.00	0.000
P	1,45,000	0.29	1.30	0.377
Total	5,00,000	1.00		0.977

(2) Computation of Expected Return on Portfolio

Expected Return [E(RP)]

$= R_f + [\beta_p \times (R_m - R_f)]$

$= 8\% + [0.977 \times (14\% - 8\%)]$

$= 8\% + [0.977 \times 6\%]$

$= 8\% + 5.862\%$

$= 13.862\%$

(b) The data has been provided

Time (Years)	Market Value of Fund	Cash Flows (Net)
0	50	0
1	60	20
2	120	—

(i) Calculation of MWROR =>

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

$=> 50(1+i)^2 + 20(1+i) = 120$

By using the iterative process and substituting different values for 'i', it is found that 'i' lies between 35% and 37%. By using the technique of interpolation, it is found that the true value of 'i' is 36.2%. Hence, the MWROR for the fund is 36.2%.

(ii) Calculation of TWROR:

$i = [(60/50) \times (120/80)]^{1/2} - 1$

Solving i = 34.1%

(iii) In case 1st year outflow is there, instead of an inflow, then

$i = [(60/50) \times (120/40)]^{1/2} - 1$

Solving i = 89.74%

Thus, the outflow increases the TWROR.

6. (a) Given the following information

BSE Index	**50,000**
Value of Portfolio	**₹1,01,00,000**
Risk Free Interest Rate	**9% p.a.**
Dividend Yield on Index	**6% p.a.**
Beta of Portfolio	**2.0**

We assume that a futures contract on the BSE index with 4 months maturity is used to hedge the value of portfolio over next 3 months. One future contract is for delivery of 50 times the index. Based on the information, Calculate:

(i) Price of future contract,

(ii) The gain on short futures position if index turns out to be 45,000 in 3 months.

[7]

(b) Sundar Ramalingam had entered into 5 Put Options and 5 Call Options in different securities, the particulars of which are given below, along with their exercise price and actual market price on the date of exercise-

Call Options			Put Options		
Security	**Exercise Price (₹)**	**Actual Market Price (₹)**	**Security**	**Exercise Price (₹)**	**Actual Market Price (₹)**
P	**370**	**376**	**A**	**118**	**122**
Q	**450**	**444**	**B**	**758**	**758**
R	**1790**	**1700**	**C**	**350**	**340**
S	**135**	**140**	**D**	**65**	**69**
T	**953**	**953**	**E**	**230**	**220**

Examine his position on the date of exercise and suggest the action he would take.

[7]

Answer:

(a) (i) Computation of price of Futures Contract

Securities of	R Ltd.
Spot price [S_x]	₹50,000
Dividend yield Expected [Y]	6% or 0.06
Tenor / Time period [t] in Years	4 Months or 0.3333 Year
Risk Free interest Rate [r]	9% or 0.09
Price of Futures Contract [TFP_X] $TFP_X = S_X \times e^{(r-y)\times t}$	= ₹50,000 × $e^{(0.09 - 0.06) \times 0.3333}$
	= ₹ 50,000 × $e^{0.03\times0.3333}$
	= ₹50,000 × $e^{0.01}$
	= ₹50,000 × 1.0101
	= ₹50,505

Therefore, price of the Futures Contract is ₹50,505 or ₹50,500 (Approx)

(ii) Gain on short Futures Position

(1) Computation of No. of Contracts to be entered into:

Particulars	Value
Portfolio Value	₹1,01,00,000
4-Month's futures Price per Unit of BSE Index	₹50,500
No. of Units per BSE Index Futures Contract	50
Value per BSE Index futures Contract [50 Units × 50,500 per unit]	₹25,25,000

No. of Contract to be entered [Portfolio Value × Beta of Portfolio w.r.t Index ÷ Value per BSE Index futures Contract] = [₹1,01,00,000 × 2.0 ÷ ₹25,25,000]	8 Contracts

(2) Computation of Gain on Short Futures Position

Particulars	Value
Position	SELL
Contracted Sale Price per Unit of BSE Index	₹50,500
Less: Index Position in 3-Months	₹45,000
Gain per Unit of BSE Index Future	₹5,500
No. of Units per Contract	50
Gain per Contract [₹5,500 × 50 Units]	₹2,75,000
No. of Contract entered into	8
Total Gain [8 Contracts × ₹2,75,000 per contract]	₹22,00,000

Total Gain on Short Futures Position in 3 Months is ₹22,00,000

(b) (1) Put Options [Right to Sell]

Security	Exercise Price (EP) (₹)	Actual Market Price (AMP) (₹)	AMP vs. EP [Higher]	Position	Action
A	118	122	AMP	Out of Money	Lapse
B	758	758	Equal	At the Money	No Action
C	350	340	EP	In the Money	Exercise
D	65	69	AMP	Out of Money	Lapse
E	230	220	EP	In the Money	Exercise

(2) Call Option [Right to Buy]

Security	Exercise Price (EP) (₹)	Actual Market Price (AMP) (₹)	AMP vs. EP [Higher]	Position	Action
P	370	376	AMP	In the Money	Exercise
Q	450	444	EP	Out of Money	Lapse
R	1790	1700	EP	Out of Money	Lapse
S	135	140	AMP	In the Money	Exercise
T	953	953	Equal	At the Money	No Action

7. (a) On 25th March 2025, a customer requested his bank to remit DG 12,50,000 to Netherlands in payment of import of diamonds under an irrevocable LC. However, due to bank strikes, the bank could affect the remittance only on 2nd April 2025. The inter-bank market rates were as follows:

Date	25.03.2025	02.04.2025
Bombay [$ / ₹100]	**2.2873 - 2.2962**	**2.3063 - 2.3159**
London [US$/Pound]	**1.9120 -1.9135**	**1.9050 - 1.9070**
DG /Pound	**4.1125 - 4.1140**	**4.0120 - 4.0130**

The bank wishes to retain an exchange margin of 0.25%. Calculate how much the customer stands to gain or lose due to the delay.

[7]

(b) An importer requests his bank to extend the forward contract for US$ 20,000 which is due for maturity on 30th October, 2025, for a further period of 3 months. He agrees to pay the required margin money for such extension of the contract.
Contracted Rate – US$ 1= ₹ 82.32
The US Dollar quoted on 30-10-2025: -
Spot – 81.5000/81.5200
3 months' Premium - 0.87% /0.93%
Margin money for buying and selling rate is 0.075% and 0.20% respectively.
Calculate:
(i) The cost to the importer in respect of the extension of the forward contract, and
(ii) The rate of new forward contract.

[7]

Answer:

(a) (1) Determination of Rupee Value of DG 1 on 25.03.2025

Process: Buy US $ at Ask Rate at Bombay: Buy Pound (using US $) at Ask Rate at London
: Sell Pound at Bid Rate for DG

Therefore, ₹ / DG = Ask Rate at Bombay (for Purchase of Dollar) × Ask Rate for Pound at London (for Purchase of Pound) × Bid Rate for DG (for conversion of Pound into DG)

= 100/2.2873 × 1.9135 × (1/4.1125)
= ₹20.34 per DG

(2) Determination of Rupee Value of DG 1 on 02.04.2023

Process: Buy US $ at Ask Rate at Bombay ⇒ Buy Pound (using US $) at Ask Rate at London
⇒ Sell Pound at Bid Rate for DG

Therefore, ₹/DG = Ask Rate at Bombay (for Purchase of Dollar) × Ask Rate for Pound at London (for Purchase of Pound) × Bid Rate for DG (for conversion of Pound into DG)

= 100/2.3063 × 1.9070 × (1/ 4.0120)

= ₹20.61 per DG

(3) Loss because of Delay

(i) Loss without considering Banker's Margin (Extra Money payable by the Company)

= Amount Payable × (Exchange Rate on the date of actual payment - Exchange Rate on the date on which payable)

= DG 12,50,000 × (₹20.61 – ₹20.34) = ₹3,37,500

(ii) Banker's Margin on Loss

= ₹3,37,500 × 0.25% = ₹ 844

(iii) Total Loss to the Company

=₹3,37,500 + ₹844 = ₹3,38,344

(b) (i) Cost to the Importer in respect of Extension of Forward Contract:

The contract is to be cancelled on 30-10-2025 at

the spot buying rate of US$ 1 = ₹ 81.5000

Less: Margin Money@ 0.075% = ₹ 0.0611

Cancellation rate= ₹ 81.4389 or ₹81.44

Value at cancellation: US$ 20,000 @ ₹ 81.44 = ₹16,28,800

Value at original contracted rate: US$ 20,000 @ ₹82.32 = ₹ 16,46,400

The difference in favour of the Bank/Cost to the importer ₹ 17,600

(ii) Rate of New Forward Contract

The importer is entering into a new forward purchase contract; hence spot selling rate is applicable.

Spot Selling Rate US$ 1 = ₹ 81.5200

Add: Premium @ 0.93% = ₹ 0.7581

= ₹ 82.2781

Add: Margin Money 0.20% = ₹ 0.1645

New forward rate = ₹ 82.4426 or ₹ 82.44

8. Short Notes on:

(a) Explain the key components that constitute digital infrastructure. **[5]**

(b) Discuss the important features of warrants. **[5]**

(c) Discuss the objectives and significance of cross-border leasing. **[4]**

Answer:

(a) The Components of digital infrastructure include:

1. Internet: The Internet is the global system of interconnected computer networks that uses the Internet protocol suite (TCP/IP) to communicate between networks and devices. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies. The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail, telephony, and file sharing. Internet acts as the prime enabler or connecting force that integrates the digital world including digital finance.

2. Mobile telecom and digital communication suites, including applications: These components connect various organisations to a common network and enables communication for digital transactions.

3. Data centers and networks: A data center is a physical facility that organisations use to house their critical applications and data. A data center's design is based on a network of computing and storage resources that enable the delivery of shared applications and data. The key components of a data center design include routers, switches, firewalls, storage systems, servers, and application-delivery controllers.

4. Enterprise portals, platforms, systems, and software: An enterprise portal, also known as an enterprise information portal (EIP), is a framework for integrating information, people and processes across organizational
boundaries in a manner similar to the more general web portals. Enterprise portals provide a secure unified access point, often in the form of a web-based user interface, and are designed to aggregate and personalize information through application-specific portlets. The portal integrated with required systems and applications
delivers the required service.

5. APIs and integrations: An application programming interface (API) is a messenger that processes request and ensures seamless functioning of enterprise systems. An API integration is the connection between two or more applications, via their APIs, that lets those systems exchange data. API integrations power processes throughout many high-performing businesses that keep data in sync, enhance productivity, and drive revenue.

(b) Important Features of Warrants:

A warrant is a security that entitles the holder to buy the underlying stock of the issuing company at a fixed exercise price until the expiration date.

The important features of warrants are as follows:

- A warrant is exercised when the holder informs the issuer of their intention to purchase the shares underlying the warrant.
- A warrant's "premium" represents how much extra you have to pay for your shares when buying them through the warrant as compared to buying them in the regular way.
- A warrant's "gearing" is the way to ascertain how much more exposure you have to the underlying shares using the warrant as compared to the exposure you would have if you buy the shares through the market.
- If you plan on exercising the warrant, you must do so before the expiration date. The more time remaining until expiration, the more time for the underlying security to appreciate, which, in turn, will increase the price of the warrant (unless it depreciates). The expiration date is the date on which the right to exercise ceases to exist.
- Like options, there are different exercise types associated with warrants such as American style (holder can exercise any time before expiration) or European style (holder can only exercise on expiration date).

(c) Cross-border leasing is a leasing arrangement in which the lessor and lessee are located in different countries. Its objectives and significance are explained below:

Objectives of Cross Border Leasing:

(1) Overall Cost of Financing: A major objective of cross-border leases is to reduce the overall cost of financing through utilization of tax depreciation allowances by the lessor in order to reduce its taxable income. The tax savings are passed through to the lessee as a lower cost of finance. The basic prerequisites are relatively high tax rates in the lessor's country, liberal depreciation rules and either very flexible or very formalistic rules governing tax ownership.

(2) Security: The lessor is often able to utilize non-recourse debt to finance a substantial portion of the equipment cost. The debt is secured, among other things, by a mortgage on the equipment and by an assignment of the right to receive payments under the lease.

(3) Accounting Treatment: Depending on the structure, in some countries, the lessor can utilize very favourable "Leveraged Lease" Financial Accounting treatment for the overall transaction.

(4) Repossession: In some countries, it is easier for a lessor to repossess the leased equipment following a default by Lessee because the lessor is an owner and not a mere secured lender.