

FINAL EXAMINATION

December 2023

P-14(SFM)
Syllabus 2022

STRATEGIC FINANCIAL MANAGEMENT

Time Allowed: 3 Hours

Full Marks: 100

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

All Sections are compulsory. Each section contains instructions regarding the number of questions to be answered within the section.

All working notes must form part of the answer.

Wherever necessary, candidates may make appropriate suitable assumptions and clearly state them in the respective answer.

No present value factor table or other statistical table will be given in addition to this question paper. Candidates may use the value tabulated at the relevant portions of this question paper.

This paper contains two sections, A and B. Section A is compulsory and contains question No. 1 of 30 marks.

Sections B contains questions 2 to 8 of 14 marks each.

SECTION-A

Answer all the questions. Each question carries two marks.

1. Choose the correct option from the four alternatives given: **2×15=30**

- (i) A project of ROBN Ltd. has a Net Present Value (base case NPV) of ₹ 1,50,000. This project has one financial side effect; it expands the firm's borrowing power by ₹ 5,00,000. The project lasts indefinitely so it is treated as supporting perpetual debt. If the borrowing rate is 10 per cent and the net tax-shield is 35 per cent, the Adjusted Net Present Value (ANPV) of the project will be

- (A) ₹ 3,25,000
- (B) ₹ 3,10,000
- (C) ₹ 2,88,000
- (D) None of the above

- (ii) ABON Ltd.'s earning per share is ₹ 15 and growth rate of earning is 5%. The earnings growth rate is expected to stay at this level in the near future. If its payout ratio is 50% and costs of capital is 15%, what will be the market price of the share after three years? (Calculation upto two decimal places)

- (A) ₹ 95.50
- (B) ₹ 91.16
- (C) ₹ 90.20
- (D) None of the above

(iii) The expected return from a portfolio is 16% and its variance of return (Risk Squard) is 285%. If the investor's tolerance is 60; the Risk penalty will be

- (A) 5.80%
- (B) 4.95%
- (C) 4.90%
- (D) 4.75%

(iv) The following particulars relate to a mutual fund scheme:

Sector	Investment in shares (at cost) ₹ lakh	Index on Purchase date	Index on Valuation date
IT and ITES	28	1,750	2,950
Infrastructure	15	1,375	2,475

The outstanding number of units is 1.25 lakhs. What will be the Net Asset Value (NAV) per unit?

- (A) ₹ 59.36
- (B) ₹ 55.30
- (C) ₹ 54.31
- (D) ₹ 53.29

(v) If the director of COMTECH Ltd. who has access to inside information is unable to use this information to make Supernormal Profits, it is a sign of

- (A) weak form of Efficient Market hypothesis.
- (B) semi-strong form of Efficient Market hypothesis.
- (C) strong form of Efficient Market hypothesis.
- (D) incompetence of the Director.

(vi) EYAN Ltd. (EL) has a Beta of 0.80 with BSE 300. Each BSE 300 Futures contract is worth 100 units. BINUA Anticipates a bearish market for the next three months and has gone short on Shares of 25000 Shares of EL in the Spot Market. EL shares are traded at ₹ 100. 3 months' Future BSE 300 is quoted at 15500. What are the numbers of BSE 300 Futures contract to be taken by BINUA if she wants to hedge price risk to the extent of 125%?

- (A) 300
- (B) 250
- (C) 240
- (D) 200

- (vii) Buying and Selling a call and a put option with same strike prices and same expiry date is called
- (A) Straddle
 - (B) Box spread
 - (C) Strip
 - (D) Butterfly spread
- (viii) When the trade open on 01.03.2023 the stock price of Rolex Ltd., is ₹ 250. It rises to ₹ 260. The March 2023, call option on Rolex Ltd. started at ₹ 25. It moved to ₹ 29. The Delta of call option of Rolex Ltd. would be _____.
- (A) 0.50
 - (B) 0.40
 - (C) 0.35
 - (D) Insufficient information
- (ix) The Slope of the Security Marke Line (SML) denotes
- (A) The Risk Premium required
 - (B) Beta of the Security
 - (C) Market Volatility
 - (D) The influence of the unsystematic
- (x) Which of the following is/are the benefit(s) of Unified Payment Interface (UPI) to the merchants?
- (A) Round the clock availability
 - (B) Single click authentication
 - (C) Safer, secured and innovative
 - (D) In-App Payments (IAP)
- (xi) In Porter's structural analysis, which of the following is not considered as an entry barrier?
- (A) Product differentiation
 - (B) Switching costs
 - (C) Capital requirements
 - (D) Low value addition

(xii) Which one of the following is not a Digital Asset?

- (A) Digital Printing
- (B) Website
- (C) Stable Coin
- (D) Fintech

(xiii) The 90-day interest rate is 1.85% in USA and 1.35% in the UK and the current spot exchange rate is \$ 1.6/1£. The 90-day forward rate is

- (A) \$ 0.62808
- (B) \$ 1.592145
- (C) \$ 1.607893
- (D) \$ 1.342132

(xiv) ZONS Ltd. Shares are traded in the Stock Market. The Standard Deviations of ZONS'S Shares and the Market are 6% and 4% respectively. If the Correlation Co-efficient for the shares with the market is 0.8, what will be Beta Co-efficient of the Company's Shares based on the CAPM?

- (A) 0.90
- (B) 1.00
- (C) 1.20
- (D) 1.50

(xv) RTZ Ltd. wishes to earn real rate of 10% from its project. When the inflation recorded is 7%, what is the normal rate the company would earn?

- (A) 16.60%
- (B) 17.70%
- (C) 18.20%
- (D) None of the above

SECTION-B

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

14×5=70

2. (a) PRANTICK Ltd. is considering the replacement of its existing machine with a new machine. The purchase price of the new machine is ₹ 36,40,000 and its expected life is 8 years. The company follows straight line method of depreciation on the original investment (Scrap value is not considered for the purpose). The other expenses to be incurred for the New Machine are as under:

- (i) Installation charges ₹ 14,000
- (ii) Consultant fees paid for his advice to buy new machine ₹ 7000
- (iii) Additional working capital required (will be released after 8 years) ₹ 23,800

The written down value of the existing machine is ₹ 1,06,400 and its cash salvage value is ₹ 17,500. The dismantling of the existing machine would cost ₹ 6,300. The annual earnings (before tax but after depreciation) from the new machine would amount to ₹ 4,41,000. The company's marginal tax rate applicable is 35%. Its cost of capital is 13%.

[Given: PVIF (13%, 8 yrs) = 0.376 and PVIFA (13%, 8 yrs) = 4.80] Present figures nearest to rupee.

Required:

- (i) Analyse the annual cash savings and present value of cash inflows.
 - (ii) Advise on the viability of the proposal. 7
- (b) ROTN Ltd. has decided to go in for a new model of Mercedes Car. The cost of the vehicle is 40 lakhs. The company has two alternatives: (i) taking the car on finance lease or (ii) borrowing and purchasing the car.

BMN Limited is willing to provide the car on finance lease to ROTN Ltd. for five years at an annual rental of ₹ 8.75 lakhs, payable at the end of the year.

The vehicle is expected to have useful life of 5 years, and it will fetch a net salvage value of 10 lakhs at the end of year five. The depreciation rate for tax purpose is 40% on written down value basis. The applicable tax rate for the company is 35%. The applicable before tax borrowing rate for the company is 13.8462%.

The present value interest factor at different rates of discount are as under:

Rate of Discount	Y-1	Y-2	Y-3	Y-4	Y-5
0.138462	0.8784	0.7715	0.6777	0.5953	0.5229
0.09	0.9174	0.8417	0.7722	0.7084	0.6499

Required:

- (i) **Assess** the Net present value of cash out flows if car is acquired on Financial lease.
- (ii) **Justify** the Net advantage of leasing for ROTN Ltd. (Present figures nearest to rupee).

7

3. (a) PONS Ltd., an Indian Company is trying to decide which of the 3 mutually exclusive projects to undertake. Each of the projects could lead to varying net profits which are classified as outcomes 1, 2 and 3. It has constructed the following pay-off table or matrix (a conditional profit table).

Net profit if outcomes turns out to be:

Outcomes	Probability	Project X	Project Y	Project Z
		Net Profit ₹	Net Profit ₹	Net Profit ₹
1 (worst)	0.2	40,000	60,000	80,000
2 (most likely)	0.5	65,000	55,000	80,000
3 (best)	0.3	90,000	1,10,000	1,00,000

Required:

- (i) **Evaluate** the expected value (EV) of the three projects. X, Y and Z.
 - (ii) **Which** project should be undertaken?
 - (iii) If the minimax regret rule is applicable, **identify** the profitable project.
- (b) FIZZLE Limited's earnings and dividends have been growing at a rate of 18 per cent per annum. This growth rate is expected to continue for 4 years. After that the growth rate will fall to 12 per cent for the next 4 years. Thereafter, the growth rate is expected to be 6 per cent forever. The last dividend per share was ₹ 2.00 and the investors' required rate of return on FIZZLE's equity is 15 per cent.

7

Required:

Assess the value of Equity share using a 3-step procedure.

7

4. (a) Following information is related to the Convertible Bond of SONTA Ltd. which is currently priced at ₹ 1060 per Bond:

- Conversion Parity Price = ₹ 53
- Conversion Premium = 10.41667%
- Percentage of Downside Risk with respect to Straight Value of Bond = 12.766%

Required:

- (i) **Calculate** No. of shares on Conversion.
- (ii) **Analyse** Current Market Price Per Share of SONTA Ltd.
- (iii) **Assess** the Straight Value of Bond.

7

- (b) MAX (P) a mutual fund made an issue of new fund offer on 01.01.2022 of 10,00,000 units of ₹ 10 each. No entry load was charged. It made the following investments:

Particulars	₹
25,000 equity shares of PQR Ltd., ₹ 100 each @ ₹ 320	80,00,000
5% Government Securities	4,00,000
10% Non-Convertible Debentures Unlisted	5,00,000
8% Listed Debentures	10,00,000

During the year, dividends of ₹ 8,00,000 were received on equity shares and interest on all types of debt securities were received. On 31st December 2022 equity shares were appreciated by 15% while listed debentures were quoted at 20% premium.

PQR Ltd. on 15th December 2022 in its AGM declared the interim dividend of 10% bonus shares at 1:10 with the record date of 28th December 2022.

Required:

- Calculate** the Net Asset Value (NAV) as on 31st December 2022 given that the operating expenses paid during the year amounting to ₹ 3,00,000.
- Assess** the NAV, if the mutual fund had distributed a dividend of ₹ 0.50 per unit during the year to the investors.
- Analyze** the annualised return.

7

5. (a) MS. AHONA, an investor, has made investments in two mutual funds. The following information is available:

Mutual Fund	Smart	Growth
Jensen Alpha	1.32%	1.80%
Treynor's Ratio	0.086	0.093
Actual Return	10.20%	10.92%
Risk Premium	5%	5%

Required:

- Assess** the Beta (β) for both the funds
- Determine** the Risk Free Rate
- Identify** the Security Market Line

7

(b) Following are the details of a portfolio of BOI Ltd. consisting of three shares:

Share	Portfolio Weight	Beta	Expected return in %	Total Variance
BG	0.30	0.40	12%	0.015
BZ	0.30	1.20	18%	0.035
DN	0.40	0.50	10%	0.020

Standard Deviation of Market Portfolio Returns = 14%

Covariance (BG, BZ) = 0.030

Covariance (BZ, DN) = 0.050

Covariance (DN, BG) = 0.020

Required:

Determine the following:

- The Portfolio Beta,
- Residual Variance of each of the three Shares,
- Portfolio Variance using Sharpe Index Model,
- Portfolio Variance (on the basis of Modern Portfolio Theory given by Markowitz).

7

6. (a) On January 1, 2023 MR. DEVAL an investor has a portfolio of 5 shares as given below:

Security	Price	No. of Shares	Beta
A	349.30	5,000	1.15
B	480.50	7,000	0.40
C	593.52	8,000	0.90
D	734.70	10,000	0.95
E	824.85	2,000	0.85

The cost of capital to the investor is 10.5% per annum.

Required:

Analyze and calculate the following:

- (i) The beta of his portfolio.
- (ii) The theoretical value of the NIFTY futures for February 2023.
- (iii) The number of contracts of NIFTY the investor needs to sell to get a full hedge until February for his portfolio if the current value of NIFTY is 5900 and NIFTY futures have a minimum trade lot requirement of 200 units. Assume that the futures are trading at their fair value.
- (iv) The number of future contracts the investor should trade if he desires to reduce the beta of his portfolios to 0.6.

No. of days in a year be treated as 365.

[Given: $\ln(1.105) = 0.0998$, $\ln(1.12) = 0.1133$, $e^{0.01641} = 1.01658$, $e^{0.015858} = 1.01598$.]

(calculation upto four decimal points)

7

- (b) The shares of GOXIN Ltd. are presently trading at a price of ₹ 540. After 3 months, the prices will either be ₹ 600 or ₹ 480 with respective probabilities 60% and 40%. There is a call option on the shares of GOXIN Ltd. that can be exercised only at the end of three months at an exercise price of ₹ 510. The Risk-Free Rate of interest is 6% per annum continuous compounding.

Assume no dividends in the interim period.

Required:

- (i) **Determine** the value of three months call option using the Binomial Model (Delta Method).
- (ii) **Assess** the value of the put-option under put-call parity.
- (iii) **Analyze** the expected values of the option and the stock price at the end of three months.

[Given: $e^{-0.015} = 0.985112$, $e^{-0.03} = 0.980446$, $e^{0.015} = 1.015113$, $e^{0.03} = 1.030455$]

(calculation upto two decimal points)

7

7. (a) ZISTON Ltd., and Indian MNC is executing a plant in Nepal. It has raised ₹ 600 Billion. Half of the amount will be required after six months' time. ZISTON Ltd. is looking for an opportunity to invest this amount for a period of six months. It is considering following two options:

Market	UK	Europe
Nature of Investment	Index Fund (GBP)	Treasury Bills (Euro)
Dividend (GBP in Billions)	0.1365	-
Income from stock lending (GBP in Billions)	0.0065	-
Discount on the investment value at the end	3%	-
Interest	-	7.8 percent per annum
Exchange Rate (Spot)	GBP/INR 0.0099	EUR/INR 0.011
Exchange Rate (6 month Forward)	GBP/INR 0.0100	EUR/INR 0.011

Required:

You as an investment manager suggest a suitable option to be considered which is economical to the company.

- (b) **Swadeshi Ltd.** an export-oriented unit invoices in the currency of the importer. It is expecting a receipt of USD 2,40,000 on 1st August 2023 for the goods exported on 1st May 2023.

The following information is available as on 1st May 2023:

Contract Size: ₹ 6,40,000

Exchange Rates		Currency Futures	
USD/INR		USD/INR	
Spot	0.0125	May	0.0126
1 Month Forward	0.0124	June	0.0125
3 Months Forward	0.0123		

	Initial Margin	Interest Rates in India
May	₹ 15,000	9% p.a.
August	₹ 26,000	8.5% p.a.

On 1st August 2023, the spot rate in USD/INR is 0.0126 and currency future rate is 0.0125

Required:

Suggest a suitable approach to Swadeshi Ltd. that would be most advantageous out of the following methods:

- (i) Forward Contract
- (ii) Currency Futures
- (iii) No hedge

Assume that the variation in margin would be settled on the maturity of the futures contract.

7

8. (a) Briefly **append** the different variants of Stablecoin.
- (b) **Identify** the major initiatives taken by the World Bank (*any five*).
- (c) Briefly **append** primary participants in the process of securitization (*any four*). 5+5+4
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