FINAL EXAMINATION SET - 1

MODEL QUESTION PAPER TERM – DECEMBER 2023

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

I. Choose the correct alternative. **[15 x 2 =30]**

(i) Which of the following techniques is the most suitable, when NPV and IRR lead to inconsistent ranking due to life disparity between two or more projects?

a. Modified Net Present Value.

b. Modified Internal Rate of Return.

c. Uniform Annual Equivalent Cost/Benefit.

d. Discounted Payback Period.

(ii) The Profitability Index of a project is 1.28 and its cost of investment is ₹ 2,50,000. The NPV of the project is ___________.

a. ₹ 75,000

b. ₹80,000

c. ₹ 70,000

d. ₹ 65,000

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

NPV Estimate (₹)	30,000	60,000	1,20,000	1,50,000
Probability	0.1	0.4	0.4	0.1

The expected NPV will be ______________

a. ₹ 1,00,000

b. ₹75,000

c. ₹90,000

d. ₹1,20,000

(iv) The major advantage of leasing is that it _________.

a. provides flexible financing

b. provides lower payments

c. avoids risks of obsolescence.

d. All of the above

(v) It was observed that in a certain month, 6 out of 10 leading indicators and moved up as compared to 4 indicators in the previous month. The diffusion index for the months was:

a. 20%

b. 40%

c. 60%

d. 80%

(vi) Bond volatility is inversely related to:
a. Term to maturity
b. Yield to maturity
c. Coupon rate
d. Both (b) and (c)

(vii) Mr. X expects 20% return from his investment. The dividend from the stock is ₹2.0 and the present price is ₹50. What should be the future price of the stock?
(a) ₹ 56.39
(b) ₹ 58.00
(c) ₹ 60.00
(d) ₹ 62.30

(viii) According to the constant growth model, the next year's dividend is ₹2.00, required rate of return is 15% and the growth rate is 10%, the market price would be:
(a) ₹ 50
(b) ₹45
(c) ₹ 40
(d) ₹ 48

(ix) Which among the following increases the NAV of a mutual fund scheme?
(a) Value of investments
(b) Receivables
(c) Accrued income
(d) All of (a), (b) and (c)

(x) A portfolio comprises two securities and the expected return on them is 12% and 16% respectively. Determine return of portfolio if first security constitutes 40% of total portfolio.
a. 12.4%
b. 13.4%
c. 14.4%
d. 15.4%

(xi) Plain vanilla interest rate swaps involved:
a. Fixed to fixed rate swap
b. Fixed to floating rate swap
c. Floating to floating rate swap
d. Currency swap

(xii) An investor writes a three-month put on the stock of an oil company at an exercise price of ₹275 per share at a premium of ₹34. If the expiration date price is ₹280, calculate the gain/loss of put writer.
a. ₹5
b. (-) ₹5
c. ₹34
d. None of the above

(xiii) The 6-month forward rate for US dollar against Rupee is quoted as ₹49.50 as opposed to a spot price of ₹48.85. The forward premium on US dollar is:

a. 1.50 %
b. 3.08 %
c. 3.05 %
d. None of the above.

(xiv) The sterling is trading at $1.6400 today. Inflation U.K. is 3.8% and that in U.S.A. is 2.9%. What would be the spot rate ($/£) after 2 years?

a. $1.6117
b. $1.615
c. $1.625
d. None of the above

(xv) Sharpe's measure of the portfolio performance is based on:

(a) Systematic risk of the portfolio
(b) Unsystematic risk of the portfolio
(c) Total risk of the portfolio
(d) Market risk of the portfolio

SECTION – B

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

2. **(a)** Nine Gems Ltd. has just installed Machine – R at a cost of ₹2,00,000. The machine has a five-year life with no residual value. The annual volume of production is estimated at 1,50,000 units, which can be sold at ₹6 per unit. Annual operating costs are estimated at ₹2,00,000 (excluding depreciation) at this output level. Fixed costs are estimated at ₹3 per unit for the same level of production.

Nine Gems Ltd. has just come across another model called Machine – S capable of giving the same output at an annual operating cost of ₹1,80,000 (exclusive of depreciation). There will be no change in fixed costs. Capital cost of this machine is ₹2,50,000 and the estimated life is for five years with nil residual value.

The company has an offer for sale of Machine – R at ₹1,00,000, but the cost of dismantling and removal will amount to ₹30,000. As the company has not yet commenced operations, it wants to sell Machine – R and purchase Machine –S.

Nine Gems Ltd. will be a zero-tax company for seven years in view of several incentives and allowances available. The cost of capital may be assumed at 15%. P.V. factors for five years are as follows:

Year	P.V. Factors
1	0.8696
2	0.7561
3	0.6575
4	0.5717
5	0.4972

(i) Advise whether the company should opt for the replacement.

(ii) Suggest if there be any change in your view, if Machine-R has not been installed but the company is in the process of selecting one or the other machine?

Support your view with necessary workings. **[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]**

3. (a) A firm has an investment proposal, requiring an outlay of ₹80,000. The investment proposal is expected to have two years economic life with no salvage value. In year 1, there is a 0.4 probability that cash inflow after tax will be ₹50,000 and 0.6 probability that cash inflow after tax will be ₹60,000. The probability assigned to cash inflow after tax for the year 2 are as follows:

The cash inflow year 1	₹ 50,000		₹60,000	
The cash inflow year 2	Probability		Probability	
	₹ 24,000	0.2	₹ 40,000	0.4
	₹ 32,000	0.3	₹ 50,000	0.5
	₹ 44,000	0.5	₹ 60,000	0.1

The firm uses 8% discount rate for this type of investment.

Required:

(i) Develop a decision tree for the proposed investment project and calculate the expected net present value (NPV).

(ii) Calculate net present value will the project yield, if worst outcome is realized and also calculate the probability of occurrence of this NPV.

(iii) Suggest what will be the best outcome and the probability of that occurrence?

(iv) Recommend whether the project be accepted.

(Note: 8% discount factor 1 year 0.9259; 2 year 0.8573) **[7]**

(b) Consider the equity share of India Incorporated

D_0 = Current dividend per share ₹3.00

n = Duration of the period of super normal growth = 5 years

g_a = Growth rate during the period of super normal growth = 25%

g_n = Normal growth rate after super normal growth period is over = 7%

k = Investor's required rate of return = 14%

Calculate the price of the Equity Share under Multiple Growth Rate Model. **[7]**

4. (a) AB Ltd. is expected to pay a dividend of ₹4.00 at the end of first year, a dividend of ₹7.00 at the end of second year, a dividend of ₹11.00 at the end of 3rd year. From 4th year onwards, the dividends are expected to grow at a constant growth rate of 4%. If the required rate of return is 14%, compute the present value of the stock. **[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%, suggest which of the four friends were rewarded better per unit of risk taken? **[7]**

5. (a) The beta coefficient of M Ltd. is 1.40. The company has been maintaining 8% rate of growth in dividends and earnings. The last dividend paid was ₹4.00 per share. Return on government securities is 12% and return on market portfolio is 18%. The current market price of the share of M Ltd. Is ₹32.00. Calculate be the equilibrium price per share of M Ltd. **[7]**

(b) From the following information, ascertain the risk of the portfolio — **[7]**

Securities	Standard Deviation	Proportion in Portfolio
A	8%	0.30
B	12%	0.50
C	6%	0.20

Correlation Co-efficient

AB = 0.50

AC = - 0.40

BC = + 0.75

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:

(a) Price of future contract,

(b) The gain on short futures position if index turns out to be 45,000 in 3 months **[7]**

(b) Calculate the price of a European put option on a non-dividend-paying stock when the stock price is ₹ 69, the strike price is ₹ 70, the risk-free interest rate is 5% per annum, the volatility is 35% per annum, and the time to maturity is six months. **[7]**

7. (a) On 25th March 2023, 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 2023. The inter-bank market rates were as follows:

Date	25.03.2023	02.04.2023
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 does the customer stand to gain or lose due to the delay? **[7]**

(b) Exchange rate between Rupee and Swiss franc is ₹33/SFr at the reference period and the forward rate is found to be ₹33.40/SFr after 9 months. Nine-month interest rate on Rupee is 8% p.a. Recommend what should have been corresponding interest rate on Swiss franc. Show that interest rate differential is equal to forward premium or discount. **[7]**

8. (a) Prepare a short note on Digital Infra Structure. **[5]**

(b) Discuss who can invest in participatory notes. **[5]**

(c) Discuss the benefits of Securitization. **[4]**