[This question paper contains 11 printed pages.]

2879 *Your Roll No. .....*

M.Com./Semester III/(NC) **F**

Paper MJ 302 : Security Analysis and Portfolio Management

Time : 3 Hours *Maximum Marks : 100*

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt **All** *questions.*

Answers should be specific and precise.

1. Attempt any **Eight** out of the following.

Distinguish between Investment and Speculation.

(i) Draw Indifference curves of a (i) more risk averse, (ii) less risk averse, (iii) risk neutral and (iv) risk lover investor.

(ii) Explain the effect of taxes on Investment decision.

P.T.O.

(iii) An investor invests in a non-dividend paying share at a cost of Rs. 50 in the beginning of year 2000. At the end of year 2015, he sells the share for a price of Rs.500. Calculate his (i) Holding period return (ii) Effective annualised return.

(iv) What is Ethical Investing? Give examples of any Ethical Fund operating in India.

(v) What is beta of a security? How can it be calculated? Can it be zero?

(vi) What are the sources of unsystematic risk? How can it be reduced?

(vii) Total risk of a share is 30%, its beta is 1.5 and market risk is 25%. Calculate systematic risk and unsystematic risk of the share.

(viii) Two securities G and H have expected returns of 15% and 20% and Standard deviation as 20% and 25% respectively. Which security is more risky? Which security should be preferred by an investor?

(ix) What is Efficient frontier? What happens to it when a risk free asset is introduced in the market?

(x) State clearly the assumptions of Capital Asset Pricing Model. (8×2.5)

2. (a) A 10 year maturity 10% coupon bond paying coupons semiannually is callable in 5 years at a call price of Rs.1150. The bond currently sells at yield to maturity of 8%. Calculate

(i) Current market price of the bond.

(ii) Intrinsic value of the bond if investor's required rate of return is 12%.

(iii) Should the bond be bought by a prospective investor?

(iv) Calculate Yield to Call (YTC).

(b) What are the various types of risks in bonds? Explain in detail. (10+10)

OR

(c) Explain the following:

(i) Bond Convexity

(ii) Bond Duration

(iii) Types of Bonds

(iv) Active and Passive Bond management strategies (20)

3. (a) Explain the following

(i) Dow theory

(ii) Market Breadth analysis

(iii) Point and Figure Chart

(iv) Prospect Theory

(v) EIC framework

(b) Mr. T wants to invest in the shares of company TPK Ltd. He has gathered the following information about the company. The last reported EPS of the company is Rs 25. The company maintains a dividend payout ratio of 40%. The company is expected to grow at 10% p.a. for the three years. Thereafter the growth rate will be 8% p.a. for the next five years. After 8 years the growth rate will become 5% p.a. forever. The market price of the share of the company is Rs. 320. The required rate of return is 12%. Calculate

(i) Intrinsic value of the share.

(ii) Should Mr. T buy this share?

(iii) What will the intrinsic value of the share after three years?

(iv) What will be the fair price of the share after 8 years?

OR

(c) The expected EPS of a company is Rs. 28, retention ratio is 60% and Return on Equity (ROE)

is 16%. Beta of the company's share is 0.80. The risk free-rate is 6% and expected market return is 15%. The current market price of the share is Rs 370. Calculate

(i) Intrinsic value of the equity share of the company.

(ii) Present value of growth opportunities (PVGO).

(iii) Should an investor buy this share? Why?

(d) What is Efficient market hypothesis? What are its implications? What are the tests available for semi strong form of market efficiency? Explain in brief. (10+10)

4. (a) An investor holds a portfolio comprising of four stocks as given below

Stock	R	S	T	V
Proportion of funds	0.30	0.25	0.20	0.25
Alpha	4%	-3%	3%	2%
Beta	1.2	1.5	0.80	0.50
Unsystematic Risk (%)	3	2	4	1

The expected return on market index is 15% and its variance is 25 squared%. Calculate portfolio return and risk using Single Index Model. Why is Single Index Model considered superior to Markowitz Model?

(b) Why is the point of tangency between Capital Market line and Efficient frontier called Market portfolio? What is Tobin's separation theorem? What does it imply?

(c) Over some period a CAPM was estimated as

$E(Ri) = 0.07 + 0.15\ \beta i$

Over the same period two securities, A and B had the following results

A: Actual return=18%, β=0.80

B : Actual return=27%, β=1.40

What can be said about the performance of the securities?

OR

(d) Following information is available for stocks Y and Z :

Stock	Y	Z
Expected return (%)	22	15
Standard deviation (%)	30	20

Covariance = -300 squared%

(i) Construct the minimum variance portfolio. Also calculate expected return and risk of this portfolio.

(ii) Construct a portfolio having portfolio return = 20%. Calculate portfolio risk.

(e) Assume that the following securities are correctly priced according to the CAPM. Derive SML and show it using a diagram. What is the expected return on a security having beta=2.5 ?

R1 =12%, R2= 18%

Beta1 = 0.50, Beta2= 1.50

(f) What is Capital market line (CML)? How is it different from security market line (SML)?

(10+5+5)

5. (a) Calculate the futures price of a 6 month stock futures contract with the following details Stock price = Rs 150, Risk free rate of interest (Continuously compounded) = 9%, Expected dividend from share after 2 months = Rs 14. What will be the futures price if instead of dividend amount of Rs 14, a dividend yield of 3% is expected over the period of futures contract?

(b) What are the factors affecting options premium? Explain the relationship of each factor with call option premium as well as put option premium. Can the option premium be negative? Can it be zero?

(c) What is Bull Spread? How can it be created? When is it used? Create a Bull spread if 3 months call options are available for strike prices of Rs.100 and 120 at premiums ofRs 6 and

Rs. 4 respectively in the options market. The current stock price is Rs.110. Calculate net profit/ loss if stock price at expiry is (i) Rs.90, (ii) RS.110, (iii) Rs 150, (iv) Rs. 170. (10+5+5)

OR

(d) An investor has obtained the following details regarding POLT stock option.

Current price of the stock = Rs. 135 .

Exercise price = Rs. 130

Risk free rate = 8% p.a.

Time to expiration = 4 months

Volatility (Standard deviation) = 0.55

(i) Calculate the call option premium using Black-Scholes model.

(ii) What is the intrinsic value and time value component of the call option premium calculated in (i).

(iii) If an investor wants to buy a put option with the same exercise price and expiration date as this call option, what will be put option premium?

(e) Show diagrammatically the payoffs of a call option buyer and call option writer."Options are a better hedging instrument than futures". Do you agree? Why?

Table values for the paper :

$e^{-0.03} = .970$ $e^{-0.027} = 0.973$ $e^{0.03} = 1.03$ $e^{-0.015} = 0.985$

Ln (1.038) = 0.0377 $e^{0.045} = 1.046$

$e^{0.015} = 1.015$ Ln(0.9629) = -0.0377 $e^{-0.045} = 0.956$ $e^{0.027} = 1.027$

(10+10)