

**Note:**

1. **Maximum Marks = 100**
  2. **Time Allowed = 3 Hours**
  3. **All Questions are Compulsory**
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**Question 1 (a)**

X Ltd. has invested in a portfolio of short-term equity investments, details for which are given below:

Investment	No. of shares	Beta	Market price per share (₹)	Expected Yield
A	50,000	0.90	78	14%
B	80,000	1.25	40	22.1%
C	120,000	1.50	14	19%
D	76,250	2.00	16	23%

The current market return is 16% and the risk free rate is 8%.

Required:

1. Calculate the risk of Co.'s short-term investment portfolio relative to that of the market and identify whether the portfolio is favorable?
2. Whether X Ltd. should change the composition of its portfolio.

**(8 Marks)**

**Question 1 (b)**

Risk free rate = 8%

Rate of Return on market portfolio = 18%

Beta = 1.2

Expected dividend by year end = ₹ 24 per share

Expected share price by year end = ₹ 390

1. You are required to determine equilibrium price and decide whether the share should be purchased, held or sold for the following cases:  
Case 1: Actual price at present = ₹ 340 per share  
Case 2: Actual price at present = ₹ 350 per share
2. What conclusion can you draw from the value of "Alpha" in each case?

**(3 + 3 = 6 marks)**

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**Question 1 (c)**

XN Ltd. reported a profit of ₹ 100.32 lakhs after 34% tax for the financial Year 2015-2016. An analysis of the accounts reveals that the income included extraordinary items of ₹ 14 lakhs and an extraordinary loss of ₹ 5 lakhs.

The existing operations, except for the extraordinary items, are expected to continue in future. Further, a new product is launched and the expectations are as under:

Particulars	Amount ₹ in lakhs
Sales	70
Material Costs	20
Labour Costs	16
Fixed Costs	10

The company has 50,00,000 Equity Shares of ₹ 10 each and 80,000, 9% Preference Shares of ₹ 100 each with P/E Ratio being 6 times.

You are required to:

1. Compute the value of the business. Assume cost of capital to be 12% (after tax) and
2. Determine the market price per equity share

(6 Marks)

**Question 2 (a)**

Standard Deviation of Security X	12%
Standard Deviation of Security Y	7%
Standard Deviation of Market	10%
Correlation between X and Market	0.80
Correlation between Y and Market	0.70
Correlation between X and Y	0.90

You are required to determine the following:

1. Variance and Standard Deviation of portfolio if the weight of Security X & Security Y is 0.6 and 0.4 respectively
2. Portfolio Beta
3. Systematic & Unsystematic risk of Portfolio

(8 marks)

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**Question 2 (b)**

Mr. Suhail has invested in three Mutual Fund Schemes as given below:

Particulars	Scheme A	Scheme B	Scheme C
Date of investment	1.4.2011	1.5.2011	1.7.2011
Amount of Investment	₹ 12,00,000	₹ 4,00,000	₹ 2,50,000
Net Asset Value at entry date	₹ 10.25	₹ 10.15	₹ 10.00
Dividend received upto 31.7.2011	₹ 23,000	₹ 6,000	Nil
NAV as at 31.7.2011	₹ 10.20	₹ 10.25	₹ 9.90

You are required to calculate the effective yield on per annum basis in respect of each of the three Schemes to Mr. Suhail up to 31.7.2011.

Take one year = 365 days.

Show calculations up to two decimal points.

(8 marks)

**Question 2 (c)**

- Stock A has an Expected Return of 18% and a standard deviation of 30%. Stock B has an expected return of 12% and a standard deviation of 36%. The correlation between the two stocks is 0.25. If you form a portfolio where you put 40% of your money in A and 60% in B. What is Expected Return and standard deviation for the portfolio?
- How will the Expected Return and standard deviation change if the correlation between the two stocks is zero?
- At what level of correlation coefficient the risk would be least? Compute such minimum risk.

(4 marks)

**Question 3 (a)**

A Mutual Fund Co. has the following assets under it on the close of business as on:

Company	No. of Shares	1 <sup>st</sup> February 2022 Market price per share	2 <sup>nd</sup> February 2022 Market price per share
L Ltd.	20,000	₹ 20.00	₹ 20.50
M Ltd.	30,000	₹ 312.40	₹ 360.00
N Ltd.	20,000	₹ 361.20	₹ 383.10
P Ltd.	60,000	₹ 505.10	₹ 503.90

Total No. of Units 6,00,000

- A. Calculate Net Assets Value of the Fund as on 1<sup>st</sup> February 2022.
- B. Following information is given as on 1<sup>st</sup> February 2022:  
Assuming that on the evening of the day, one investor, Mr. A, submits a cheque of ₹ 30,00,000 to the Mutual Fund and the Fund manager of this company purchases 8,000 shares of M Ltd; and the balance amount is held in Bank. In such a case, what would be the position of the Fund?
- C. Find new NAV of the Fund as on 2<sup>nd</sup> February 2022.
- (8 marks)*

**Question 3 (b)**

ABB Ltd. has a surplus cash balance of ₹ 180 lakhs and wants to distribute 50% of it to the equity shareholders. The company decides to buyback equity shares. The company estimates that its equity share price after re-purchase is likely to be 15% above the buyback price. if the buyback route is taken.

Other information is as under:

1. Number of equity shares outstanding at present (Face value ₹ 10 each) is ₹ 20 lakhs.
2. The current EPS is ₹ 5.

You are required to calculate the following:

1. The price at which the equity shares can be re-purchased, if market capitalization of the company should be ₹ 400 lakhs after buy back.
2. Number of equity shares that can be re - purchased.
3. The impact of equity shares re-purchase on the EPS, assuming that the net income remains unchanged.

*(8 Marks)*

**Question 3 (c)**

Tiger Ltd. has "Blood Lust" as a separate division. The division is likely to give cash flows (after tax) to the extent of ₹ 5,00,000 for the 1<sup>st</sup> year and such cash flows are expected to grow @ 8% p.a. up to end of 6 years.

Tiger Ltd. has planned that, after 6 years, this division would be demerged and disposed of at its terminal value which is expected to be 15% more than the value based on perpetual growth. The company's cost of capital is 16%.

Determine the total enterprise value as per cash flow based valuation.

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Net present values for 16% for ₹ 1 are as follows:

Years	1	2	3	4	5	6
PV	0.862	0.743	0.641	0.552	0.476	0.410

(4 Marks)

**Question 4 (a)**

Mr. X, a financial analyst, intends to value the business of PQR Ltd. in terms of the future cash generating capacity. He has projected the following after tax cash flows:

Year	1	2	3	4	5
Cashflow (₹ in lakh)	1,760	480	640	860	1,170

It is further estimated that beyond 5<sup>th</sup> year, cash flows will perpetuate at a constant growth rate of 8% per annum, mainly on account of inflation. The perpetual cash flow is estimated to be ₹ 10,260 lakh at the end of the 5<sup>th</sup> year.

**Required:**

1. What is the value of the firm in terms of accepted future cash flow? If the cost of capital of the firm is 20%.
2. The firm has outstanding debts of ₹ 3620 lakh and cash / bank balance of ₹ 2710 lakhs.

Calculate the shareholder value per share if the number of is outstanding share is 151.50 lakhs.

The firm has received a takeover bid from XYZ Ltd. of ₹ 225 per share. Is it a good offer?

(Given: PVIF at 20% for year 1 to year 5: 0.833, 0.694, 0.579, 0.482, 0.402)

(8 Marks)

**Question 4 (b)**

M/s. Earth Limited has 11% bond worth of ₹ 2 crores outstanding with 10 years remaining to maturity. The company is contemplating the issue of a ₹ 2 crores 10 year bond carrying the coupon rate of 9% and use the proceeds to liquidate the old bonds.

The unamortized portion of issue cost on the old bonds is ₹ 3 lakhs which can be written off no sooner the old bonds are called. The company is paying 30% tax and it's after tax cost of debt is 7%. Should Earth Limited

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liquidate the old bonds? You may assume that the issue cost of the new bonds will be ₹ 2.5 lakhs and the call premium is 5%.

(8 Marks)

**Question 4 (c)**

Orange purchased 200 units of Oxygen Mutual Fund at ₹ 45 per unit on 31<sup>st</sup> December, 2009. In 2010, he received ₹ 1.00 as dividend per unit and a capital gains distribution of ₹ 2 per unit.

**Required:**

- i. Calculate the return for the period of one year assuming that the NAV as on 31<sup>st</sup> December 2010 was ₹ 48 per unit.
- ii. Calculate the return for the period of one year assuming that the NAV as on 31<sup>st</sup> December 2010 was ₹ 48 per unit and all dividends and capital gains distributions have been reinvested at an average price of ₹ 46.00 per unit.

Ignore taxation.

(4 marks)

**Question 5 (a)**

Following is Balance Sheet of NJ Ltd. as at 01.04.2020

**Balance Sheet (01.04.2020)**

<b>Assets</b>	<b>₹</b>
Non-Current Assets	7,000
Current Assets	5,000
<b>Total</b>	<b>12,000</b>
<b>Equity &amp; Liabilities</b>	
Equity Share Capital	2,000
Reserves	3,000
10% Debt	5,000
Total Capital Employed	10,000
Current Liabilities	2,000
<b>Total</b>	<b>12,000</b>

For the year ended 31.03.2021, the company achieved total sales of ₹ 15,000. Cost of Goods Sold is 70% of Sales. The company incurred operating expenses of ₹ 2,000. Tax rate is 30%.

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The company uses Capital Asset Pricing Model for determining the cost of equity. For this purpose, following information is available:

Risk Free Rate = 8% p.a.

Rate of Return in the Market = 16% p.a.

Beta of stock of NJ Ltd. = 1.5 times.

Determine the Economic Value Added for NJ Ltd.

*(8 Marks)*

**Question 5 (b)**

K. Ltd. is considering acquiring N. Ltd. the following information is available:

Company	Profit after tax	Number of Equity Shares	Market Value per share
K. Ltd.	50,00,000	10,00,000	200.00
N. Ltd.	15,00,000	2,50,000	160.00

Exchange of equity shares for acquisition is based on current market value as above.

There is no synergy advantage available:

1. Find the earning per share for company K. Ltd. after merger.
2. Find the exchange ratio so that shareholders of N. Ltd. would not be at a loss of earnings.

*(8 Marks)*

**Question 5 (c)**

Face Value of the bond = ₹ 1,000. Coupon Rate = 9% p.a. Coupon Payments at end of each year. Remaining maturity = 4 years. Bond is Redeemable at 15% premium. The present market price of the bond is:

- ₹ 820 for the Principal Strip and
- ₹ 260 for the Interest Strip and

If the desired rate of return for the investor is 11% p.a., determine whether the bond strips are over-priced or under-priced in the open market.

*(4 Marks)*

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***End of Test***

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