PGDM, PGDM (IB) 2020-22
Investment Management
DM 314/IB 314
Trimester – III, End-Term Examination: April 2021

Time allowed: 2 Hrs 30 Min
Max Marks: 50

Roll No: ____________

Instruction: Students are required to write Roll No on every page of the Answer Sheet. All other instructions on the question paper / notifications should be followed meticulously.

Section A: 30 Marks, Questions carry 10 Marks each

Q1. Use the information below for the following problem(s)

	Stock Price			# Shares		
	X	Y	Z	X	Y	Z
Jan. 13, 2005	20	40	30	1000	2000	1000*
Jan. 14, 2005	25	42	18	1000	2000	2000
Jan. 15, 2005	27	45	8	1000**	2000	2000
Jan. 16, 2005	20	40	10	3000	2000	2000

*2:1 Split on Stock Z after Close on Jan. 13, 2005
**3:1 Split on Stock X after Close on Jan. 15, 2005
The base date for index calculations is January 13, 2005

I. Calculate a price weighted average for January 13^{th} and 14th.
II. What is the divisor at the beginning of January 14th?
III. What is the divisor at the beginning of January 16th?
IV. Calculate a price weighted average for January 16th.
V. Calculate a value weighted index for Jan. 13th if the initial index value is 100.
VI. Calculate a value weighted index for Jan. 14th if the initial index value is 100.
VII. Calculate a value weighted index for January 15th if the initial index value is 100.

(1+1+1+2+1+2+2=10 Marks)
(CILO 1)

OR

Q1 a). Discuss the three components of an investor's required rate of return on an investment?
Q1 b). How is risk premium given by Markowitz theory different from fundamental sources of risk? How are the two related to return?

(4 + 6 Marks)
(CILO 1)

Q2. a) Your broker has advised you that he believes that the stock of Brat Inc. is going to rise from $20 to $22.15 per share over the next year. You know that the annual return on the S&P 500 has been 11.25% and the 90-day T-bill rate has been yielding 4.75% per year over the past 10 years. If beta for Brat is 1.25, will you purchase the stock?

Q2. b) Use the information below for the following problem(s)

Asset (A)	**Asset (B)**
$E(R_A) = 14\%$	$E(R_B) = 16\%$
$(\sigma_A) = 13\%$	$(\sigma_B) = 18\%$
$W_A = 0.4$	$W_B = 0.6$
$COV_{A,B} = 0.0024$	

What is the expected return and risk of a portfolio of two risky assets shown above?

Q2. c) How is capital market theory different from Portfolio theory, discuss importance contributions made by each theory

(3+3+4 Marks)
(CILO 2)

OR

Q2 a) Use the information below for the following problem(s)

	Rates of Return	
Year	**RA Computer**	**Market Index**
1	13	17
2	9	15
3	-11	6
4	10	8
5	11	10
6	6	12

i. Compute the beta for RA Computer using the historic returns presented above and correlation coefficient between RA Computer and the Market Index.
ii. Comment on the calculations

Q2. b) It is widely believed that changes in macroeconomic variables may directly affect performance of an equity portfolio. As the Chief Investment Officer (CIO) explain how the following factors would affect portfolio risk and return:

i. Industrial production
ii. Inflation
iii. Risk premium
iv. Aggregate consumption
v. Oil prices

(5+5 Marks)
(CILO 2)

Q3. a) ABC company issued 5-year maturity, \$ 1000 par value bond at the price of \$ 1020 with 10 percent annual coupon. what is the yield to call of the bond if the bond can be called at \$ 1040 after 3 years?

Q3. b) Ronnie, an investor wants to assess as how his bond Investment value will change with any change in the interest rate. He come to know that the duration of his bond investment is -1.8 and the current market value of his bond is \$ 200,000. What will be the value of his bond investment if the market rate of yield decreases by 2 %.

Q3. c) A company's bond was issued exactly 2 years back, the maturity of the bond then was 5 years, with par value of $ 1000, coupon rate of 9 % payable annually. what should be the value of the bond now if the required rate of return on the bond is 10 %

(4+3+3 Marks)
(CILO 4)

OR

Q3. a) Discuss the Expectations theory and Liquidity preference theory in relation to the Yield curve of bond.

Q3. b) Explain at least five types of diverse risks which bond investment is exposed to.

(5+5 Marks)
(CILO 4)

Section B, Compulsory question & Case Study: 20 Marks

Q4. a) Explain with suitable example as why ROE is critical to analyze while selecting a company for an equity Investment.

Q4. b) Explain with suitable example as how to analyze the sensitivity of an industry to the business cycle.

Information for Q 4 c) and Q 4 d)

The financials of XYZ Limited are as below

	All figures in INR million		
	20x6	20x7	20x8
· Net sales	900	1100	1350
. COGS	710	850	1050
. Gross profit	190	250	300
· Profit before interest & tax	120	200	250
· Interest	50	55	70
· Profit before tax	70	145	180
· Tax	17.5	36.25	45
· Profit after tax	52.5	108.75	135
· Dividends	13.5	32.75	47
· Retained earnings	39	76	88
· Equity share capital (INR 10 par)	200	200	200
· Reserves and surplus	140	216	304
· Loan funds	500	550	680
· Capital employed	840	966	1184
· Net fixed assets	600	700	900
· Investments	30	20	40
· Net current assets	400	430	450
	1030	1150	1390

Market price of share figures at year end for 20x6, 20x7, 20x8 are 22, 44 and 52 respectively.

Q4. c) Decompose the ROE for the above given financials for year 20x7 and 20x8 in term of three factors.

Q4. d) Derive the PE ratio of the company using constant growth dividend model. Following assumptions can be made for the calculation. Risk free rate = 6 %, beta of the stock = 1.2, expected market return = 10 %. Dividend payout ratio should be the average dividend payout ratio of the above 20x7, & 20x8 year financials. ROE should be taken as the average ROE of the above 20x7, & 20x8 year financials.

(4+4+6+6= 20 Marks) (CILO 3)