

Internal Assessment Test - II

Sub:	Investment Management	Code:	16MBAFM303
Date:	9.11.17	Duration:	90 mins
		Max Marks:	40
		Sem:	III
		Branch:	MBA

		OBE																					
		CO	RBT																				
Part A - Answer Any Two Full Questions (16*02=32 Marks)																							
1	What is portfolio?	[02]	CO2 L1																				
	(a)																						
	(b) Mr. Joshi has a portfolio of securities. These are as follows:	[06]	CO1 L2																				
	<table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 15%;">Amount in Lakhs</td> <td style="width: 15%;">6</td> <td style="width: 15%;">9</td> <td style="width: 15%;">12</td> <td style="width: 15%;">15</td> <td style="width: 15%;">18</td> </tr> <tr> <td>Returns</td> <td>7%</td> <td>12%</td> <td>19%</td> <td>10%</td> <td>2%</td> </tr> </table>	Amount in Lakhs	6	9	12	15	18	Returns	7%	12%	19%	10%	2%										
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Returns	7%	12%	19%	10%	2%																		
	(c) Consider the following stocks and calculate portfolio risk:	[08]	CO3 L4																				
	<table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 10%;">Weight</th> <th style="width: 15%;">Company</th> <th style="width: 15%;">X(0.33)</th> <th style="width: 15%;">Y (0.33)</th> <th style="width: 15%;">Z (0.33)</th> </tr> </thead> <tbody> <tr> <td>0.33</td> <td>X</td> <td>382.09</td> <td>08.73</td> <td>39.87</td> </tr> <tr> <td>0.33</td> <td>Y</td> <td>68.73</td> <td>63.82</td> <td>68.87</td> </tr> <tr> <td>0.33</td> <td>Z</td> <td>39.87</td> <td>68.87</td> <td>38.25</td> </tr> </tbody> </table>	Weight	Company	X(0.33)	Y (0.33)	Z (0.33)	0.33	X	382.09	08.73	39.87	0.33	Y	68.73	63.82	68.87	0.33	Z	39.87	68.87	38.25		
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2	(a) Calculate the current yield from the following data: A bond with par value is Rs 1000, it bears a coupon rate of 12%, the bond maturity period is after 10 years, its market price is Rs 950	[02]	CO2 L1																				
	(b) A bond with 12% coupon rate issued 3 years ago is redeemable after 5 years from now at a premium of 5%. The interest rate prevailing in the market is currently 14%. Calculate the duration of bond.	[06]	CO3 L4																				
	(c) Describe Management portfolio strategies.	[08]	CO1 L5																				
3	(a) What is bond durations?	[02]	CO2 L1																				
	(b) Calculate the PV of common stock from the following data: An investor gets Rs 3.44 dividend by the company continuously for five years.	[06]	CO3 L3																				

Maturity period of the stock is 5 years.
 Selling price of the share at the end of the fifth year is Rs 60.
 Required rate of return is 10%

(c) Summarises the portfolio risk

[08]

CO2	L4
CO3	L1
CO2	L2

Part B - Compulsory (01*08=08 marks)

4 Jaya ltd has a 14% debenture with a face value of Rs 100 that matures at a par in 15 years. The debenture is callable in 5 years at Rs 114. It currently sells for Rs 105. Calculate each of the following for their debenture.

a. Current Yield, b. Yield to call, c. Yield to maturity.

(a)

(b)

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1:										
CO2:										
CO3:										

Cognitive level	KEYWORDS
L1	List, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
L2	summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend
L3	Apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover.
L4	Analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer.
L5	Assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize.

Investment Management

Part B:

$$1) \text{CY} :- \frac{I \cdot n}{P_0} \times 100$$

$$= \frac{14}{105} \times 100 = 13.3\%$$

$$\text{YTC} :- 105 = \sum_{t=1}^5 \frac{14}{(1+\text{YTC})^t} + \frac{114}{(1+\text{YTC})^5}$$

$$= 14 \times \text{PVIFA}(5y, 15\%) + 114 \times \text{PVIF}(5y, 15\%)$$

$$= (14 \times 3.3522) + (114 \times 0.4972)$$

$$= 46.93 + 56.68 = 103.61$$

Taking YTC for 14%

$$= 14 \times \text{PVIFA}(5y, 14\%) + 114 \times \text{PVIF}(5y, 14\%)$$

$$= (14 \times 3.4331) + (114 \times 0.5194) = 107.24$$

$$\therefore \text{YTC} = 14 + \left[\frac{107.24 - 105}{107.24 - 103.61} \right] [15 - 14]$$

$$= 14 + \frac{2.24}{3.63} \times 1 = 14.62\%$$

YTM :-

$$P = \sum_{t=1}^n \frac{C}{(1+YTM)^t} + \frac{M}{(1+YTM)^n}$$

Taking 15%.

$$P_y = 14 \times PVIFA(15y, 15\%) + 100 \times PVIF(15y, 15\%)$$

$$= 14 \times 5.8474 + 100 \times 0.1229 = 94.15.$$

Taking 13%.

$$P_y = 14 \times PVIFA(15y, 13\%) + 100 \times PVIF(15y, 13\%)$$

$$= 14 \times 6.4624 + 100 \times 0.15999 = 106.46.$$

Using IRR:-

$$YTM = 13 + \left[\frac{106.46 - 105}{106.46 - 94.15} \right] (15 - 13)$$

$$= 13.24\%$$



Part A.

10) b)

Security	Return	Amt	Weight	W x R
I	0.7	6,00,000	0.1	0.007
II	.12	9,00,000	.15	.018
III	.19	12,00,000	.20	0.28
IV	.10	15,00,000	.25	0.25
V	.02	18,00,000	.30	.006
				<u>0.094</u>

The expected return of portfolio is 9.4%.

26) Bond duration:-

Year	Return	Pv factor 14%	PV	D
1	12	0.877	10.524	10.524
2	12	0.769	9.228	18.456
3	12	0.675	8.1	24
4	12	0.592	7.104	28.416
5	112	0.519	58.128	290.64
			<u>93.084</u>	<u>372.336</u>

$$\text{Bond duration} = \frac{D}{C} = \frac{372.336}{93.084} = 4 \text{ years.}$$

3) c) Variance - Covariance Matrix

$$\begin{aligned} \sigma^2 = & (0.33 \times 0.33 \times 382.09) + (0.33 \times 0.33 \times 68.73) \\ & + (0.33 \times 0.33 \times 39.87) + (0.33 \times 0.33 \times 68.73) + \\ & (0.33 \times 0.33 \times 63.82) + (0.34 \times 0.33 \times 68.87) + \\ & (0.33 \times 0.34 \times 39.87) + (0.33 \times 0.34 \times 68.87) + \\ & (0.34 \times 0.34 \times 88.25) = 92.35 \end{aligned}$$

$$\sigma_p = \sqrt{92.35} = 9.61\%$$

x ————— x

2) a)

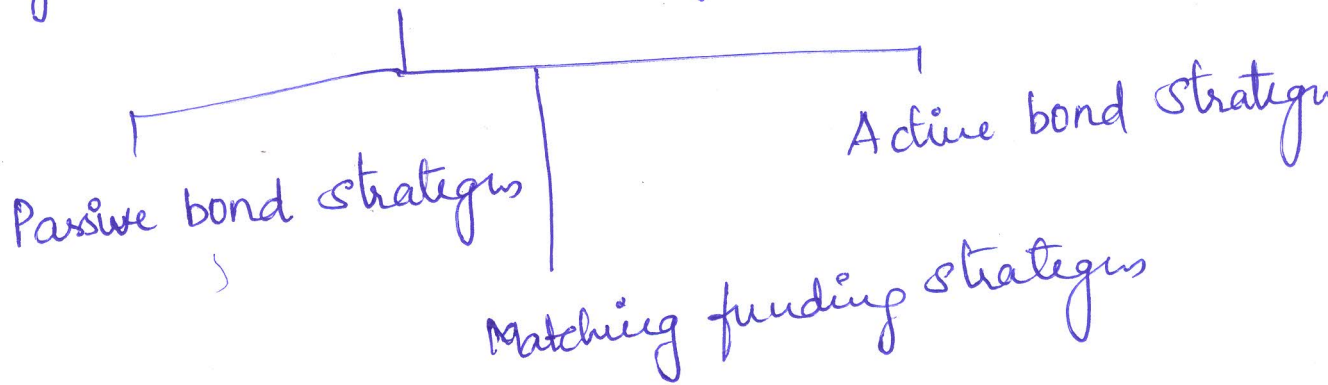
$$CY = \frac{\Delta P_n}{P_0} \times 100$$

$$= \frac{120}{950} \times 100$$

$$= 12.63\%$$

By

c) Management portfolio strategies :-



* Passive bond strategies

Passive bond strategies involves buying a bond & holding until maturity.

* Buy and hold strategies.

* Active bond strategies :-

> Interest rate anticipation

> Valuation analysis

> Credit analysis

> Yield spread "

> Bond Swaps.

3) B)
$$P_0 = \sum_{t=1}^5 \frac{3.44}{(1+0.10)^t} + \frac{60}{(1+0.10)^5}$$

$$= 3.44(PVIFA_{10\%, 5y}) + Rs\ 60(PVIF_{10\%, 5y})$$

$$= 3.44 \times 3.791 + 60 \times 0.621$$

$$= Rs\ 50.3$$

$$PV = \sum_{t=1}^n \frac{Dt}{(1+r)^t} + \frac{Pn}{(1+r)^n}$$

