PGDM 17-19 and PGDM IB 17-19
Investment Management
DM-313/IB-311
Trimester – III, End-Term Examination: March 2018

Time allowed: 2 Hrs 30 Min
Max Marks: 50

Roll No: ___________

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means.** All other instructions on the reverse of Admit Card should be followed meticulously.

Section A: 15 marks: Attempt 3 out of 5 Questions

QA1. What does security Market line depicts and how is it different from capital market line?

QA2. What are the different types of Government Securities traded in India, write briefly about each type of G-Sec.

QA3. Consider the data for a sample of 5 shares for two years, the base year and year *t*

Share	Price in base year (Rs.)	Price in year *t* (Rs.)	No. of outstanding shares (in millions)
P	42	58	26
Q	60	54	18
R	24	36	16
S	52	38	20
T	16	28	32

What is the price weighted index, equal weighted index, and value weighted index for year *t*?

QA4. Given two assets with the following characteristics:

$$E(R_1)= 0.12 \ \sigma_1 = 0.04$$
$$E(R_2)= 0.16 \ \sigma_2 = 0.06$$

Under what condition will the portfolio result in zero variance? What is the weight that would yield a zero variance for the portfolio?

QA5. Consider the following data for government securities.

Face value	Interest rate	Maturity (years)	Current price
100,000	0	1	95,000
100,000	7%	2	99,500
100,000	7%	3	99,200

What is the forward rate for year 2?

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Section B: 20 marks: Attempt 2 out of 3 Questions

QB1. Discuss in detail all the eight broad phases of portfolio management.

QB2. A zero coupon bond of Rs 100,000 has a term to maturity of six years and a market yield of 8 percent at the time of issue.

i. What is the issue price? **(1.5 marks)**
ii. What is the duration of the bond? **(1.5 marks)**
iii. What is the modified duration of the bond? **(2 marks)**
iv. What will be the percentage change in the price of the bond, if the yield declines by 0.3 percentage points (30 basis points) **(2 marks)**
v. What is immunization strategy in bond portfolio management? **(3 marks)**

QB3. The balance sheet of Cosmos Limited at the end of year 0 (the present point of time) is as follows.

Rs. in crore

Liabilities		Assets	
• Shareholders' funds	500	• Net fixed assets	550
• Equity capital (20 crore shares of Rs. 10 each)	200	• Net working capital	200
• Reserves and surplus	300		
• Loan funds(rate 10 percent)	250		
	750		750

The return on assets (NOPAT) is expected to be 18 percent of the asset value at the beginning of each year. The growth rate in assets and revenues will be 30 percent for the first three years, 18 percent for the next two years, and 10 percent thereafter.

The effective tax rate of the firm is 34 percent, the pre-tax cost of debt is 10 percent and the cost of equity is 24 percent. The debt-equity ratio of the firm will be maintained at 1:2.
Calculate the intrinsic value of the equity share by using free cash flow model.

Section C: 15 marks: Compulsory

Badshah Corporation was set up fifteen years ago. After few years of initial turbulence the company found a few market segments in which it had some competitive advantage. The financials of the company for the last five years are given below:

Rs. in million

Income Statement Summary	20X1	20X2	20X3	20X4	20X5
• Net sales	1200	1320	1400	1510	1630
• Profit before interest and tax	180	195	201	220	242
• Interest	40	44	47	50	56
• Profit before tax	140	151	154	170	186
• Tax	40	43	45	50	54
• Profit after tax	100	108	109	120	132
• Dividends	36	40	40	42	45
• Retained earnings	64	68	69	78	87

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Balance Sheet Summary

• Equity capital (Rs.10 par)	120	120	120	120	120
• Reserves and surplus	600	668	737	815	902
• Loan funds	400	445	450	460	505
• Capital employed	1120	1233	1307	1395	1527
• Net fixed assets	728	863	870	920	982
• Investments	100	102	90	104	118
• Net current assets	292	268	347	371	427
• Total assets	1120	1233	1307	1395	1527
• Market price per share (year end)	52	50	55	62	68

The year 20X5 has just ended. The current market price per share is Rs.68. The market price per share at the beginning of 20X1 was Rs.49.

(a) What was the geometric mean return for the past 5 years?

(b) Calculate the following for the past 2 years: return on equity, book value per share, EPS, & PE ratio.

(c) Calculate the CAGR of sales and EPS for the period 20X1 - 20X5.

(d) Calculate the sustainable growth rate based on the average retention ratio and the average return on equity for the past 2 years.

(e) Decompose the ROE for the last two years in terms of five factors.

(f) Estimate the EPS for the next year (20X6) using the following assumptions: (i) Net sales will grow at 10%. (ii) PBIT / Net sales ratio will improve by 0.5% over its 20X5 value. (iii) Interest will increase by 9 percent over its 20X5 value. (iv) Effective tax rate will be 32 percent.

(g) Comment on the performance of the company

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