PGDM, PGDM (IB) 2019-21
Investment Management
DM 314 / IB 313
Trimester – III, End-Term Examination: June 2020

Case Study: Business Tech Ltd was set up 25 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	**20 x 1**	**20 x 2**	**20 x 3**	**20 x 4**	**20 x 5**
• Net sales	1800	2160	2500	3010	3800
• Profit before interest & tax	540	610	625	780	1180
• Interest	108	140	150	187	290
• Profit before tax	432	470	475	593	890
• Tax	125	140	142	180	275
• Profit after tax	307	330	333	413	615
• Dividends	108	116	117	165	246
• Retained earnings	199	214	216	248	369
Balance Sheet Summary					
• Equity capital (Rs.10 par)	150	150	150	150	150
• Reserves and surplus	800	1014	1230	1478	1847
• Loan funds	200	240	250	275	325
• Capital employed	1150	1404	1630	1903	2322
• Net fixed assets	800	830	950	1170	1530
• Investments	100	110	120	135	140
• Net current assets	250	464	560	598	652
	1150	1404	1630	1903	2322
• Market price per share(year ended)	120	176	180	270	462

The year 20x5 has just ended. The current market price per share is Rs.462. The market price per share at the beginning of 20x1 was Rs.82.

1. What was the geometric mean return for the past 5 years?

2. Calculate the following for the past 2 years: book value per share, EPS and PE ratio

3. Calculate the CAGR of Sales & EPS for the period 20 x 1 – 20 x 5.

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

5. Decompose the ROE for the last 2 years in term of three factors.

6. Estimate the EPS for the next year (20 x 6) using the following assumptions.

   i. Net sales will grow at 30%
   ii. PBIT / Net sales ratio will improve by 1.5% over its 20 x 5 value.
   iii. Interest will increase by 5% over its 20 x 5 value.
   iv. Effective tax rate will be 30%.

7. Derive the PE ratio using the constant-growth model. For this purpose use the following assumptions.
   i. The dividend payout ratio for 20 x 6 will be equal to the average dividend pay out Ratio for the period 20 x 4 – 20 x 5.
   ii. The required rate of return is estimated with the help of the CAPM (Risk free return = 7%, Market risk premium = 10%, Beta of Business's Stock = 1.3).
   iii. The expected growth rate in dividends is set equal to the product of the average return on equity and average retention ratio for the previous 2 years.

8. How to calculate the risk of a stock? How can an investor bring down the risk of a portfolio? Under what circumstance/s risk of a portfolio be zero? How should an investor calculate minimum risk portfolio?

(2+3+3+2+3+3+4+10 = 30 Marks)
(CILO 2 and 3)