Portfolio Management
2010-2011

Question 1
Which of the following is *most* accurate?
a. Price/sales multiples are typically used to value mature companies.
b. Multiples can be used to rank the comparable values of common stocks of companies with similar characteristics.
c. The market price of a company's common shares should equal the book value of equity if its return on equity equals the average return on equity for the market.
d. If a stock has sold at an average trailing 12-month price/earnings ratio of 10 and it is expected to earn $2.00 per share next year, then the stock should currently sell for $20 per share.

Question 2
Assume the following information for a stock:

Beta	1.15
Risk Free Rate	5%
Expected rate of return on the market	12%
Dividend payout ratio	35%
Expected dividend growth rate	12%

Using a dividend discount model approach, the earnings multiplier is *closest* to:

a. 12
b. 19
c. 33
d. 44

Question 3
Delilah, Inc currently pays a $1.25 common stock dividend, with dividends expected to grow at a 4% rate over the long-term. Assuming a risk free rate of 4.25%, an expected return on the market of 8%, and a stock beta of 0.90, Delilah's stock price should be *closest* to:

a. $31.25
b. $32.50
c. $34.48
d. $35.86

Question 4
Earnings growth rates should have a tendency to increase as:

	Earnings Retention	Asset Turnover
a.	Increases	Increases
b.	Increases	Decreases
c.	Decreases	Increases
d.	Decreases	Decreases

Question 5
Venture capital financing to a firm planning to begin manufacturing and selling a product would be considered a form of:
a. First stage financing
b. Seed stage financing
c. Second stage financing
d. Mezzanine stage financing

Question 6
Karen Smith, and analyst, always begins her analyses with a world economic outlook. Based on this outlook, she selects those countries that are most attractive. Within these countries, she selects attractive industries and then selects the best companies within each industry. Smith is using a:
a. Top-down approach
b. Bottom-up approach
c. Growth at a reasonable price approach
d. Value approach

Question 7
Smith Industries has a historical dividend payout of 30% and dividend growth of 3%. If these rates are expected to persist into the future and the required rate of return on the Company's shares is 8%, the expected P/E ratio for Smith Industries is closest to:
a. 6.0x
b. 8.8x
c. 10.0x
d. 14.0x

Question 8
Jonathan Fergus is trying to choose one from among four mutual funds in his company's self-directed retirement account. The plan administrator has provided the following information about fees, to which Jonathan has added his own expectations about returns over the next two years. Which one of the following funds should Jonathan choose for his retirement account?

Fund	E (R)	Expense Ratio	Front Load	Back Load
A	11%	1.30%	3%	0%
B	10%	1.00%	0%	5%
C	9%	1.30%	0%	0%
D	11%	1.30%	0%	5%

a. Fund A.
b. Fund B.
c. Fund C.
d. Fund D.

Question 9
Charles Biser expects the market price of Orangeco common stock to increase from $32 per share currently to $38 next year. He also projects the current annual dividend of $0.94 per share will rise to $1.00 next year. Biser's expected return on the Orangeco stock is *closest* to:

a. 21.9%
b. 21.7%
c. 18.8%
d. 15.6%

Question 10
Hi Tech Memory has four key products, each at a different stage in its life cycle. Two key products are in decline stage, one product is in rapid acceleration stage, and one product is in pioneering development stage. With regard to choosing a constant growth or a multi-stage model, an analyst would most likely conclude that Hi Tech:

a. May be approaching the declining phase of its company life cycle because it has two key products reaching market saturation and sales of the latest product are below expectations.
b. Does not exhibit traits that can be modeled using a company life cycle analysis technique.
c. Is in the accelerating growth stage of its company life cycle because the Y and Z chips still have good sales potential. The maturity stage will not be reached until the growth in the markets for these chips begins to slow.
d. Appears to be at the mature growth stage of its company life cycle. However, if the demand for the Y and Z chips starts to accelerate, Hi Tech may regress back to the expansion phase of its company life cycle.

Solutions

Question 1

Choice "b" is correct. Companies sharing similar profit dynamics may be ranked using multiples. This method of comparing companies is especially useful for comparing firms within the same industry.

Choice "a" is incorrect. Early-stage or start-up companies, typically with little or no earnings, rather than matures companies are usually valued using price/sales multiples.

Choice "c" is incorrect. Stock price is more likely to equal book value per share when return on equity is equal to cost of common equity capital for the firm, rather than the average return on the market.

Choice "d" is incorrect. The price/earnings multiple of 10 would to trailing 12-month earnings, so the $2.00 per share next year should not be used to calculate the current value.

Question 2

Choice "c" is correct

$$r_{CE} = R_F + \beta(r_M - r_F) = 5\% + 1.15(12\% - 5\%) = 13.05\%$$

$$P/E_1 = \frac{K}{r_{CE} - g} = \frac{35\%}{13.05\% - 12\%} = 33.3$$

Question 3

Choice "d" is correct.

Step 1: Determine required return on common equity

$$r_{CE} = R_F + \beta(r_M - r_F) = 0.0425 + 0.9(0.08 - 0.0425) = 0.07625 \text{ or } 7.625\%$$

Step 2: Calculate DIV_1

$$DIV_1 = DIV_0(1+g) = \$1.25(1.04) = \$1.30$$

Step 3: Determine stock's value

$$P_{CS} = \frac{DIV_1}{r_{CE} - g} = \frac{\$1.30}{0.07625 - 0.04} = \$35.86$$

Question 4

Choice "a" is correct. Earnings retention allows a firm to grow through "organic" means without the costs of external financing. Increasing retention allows the firm to grow faster. Total asset turnover (sales/total assets) is multiplied by the profit margin in DuPont analysis, and measures the firms operating efficiency. While it is typically only useful within the same industry as a means of comparison, increasing the total asset turnover usually indicates that sales have increased (or assets have decreased). Becoming more efficient will typically allow faster earnings growth, everything else equal.

Question 5
Choice “a” is correct. Seed stage financing occurs first, with the project only a business idea at this point and capital provided for market research and product development. First (early) stage financing provides capital for a firm with a viable idea to begin operations that provide a product or service to customers. Second stage financing provides capital for expanding a firm after a product has been introduced, but the company is not yet profitable. Third stage financing (not shown) provides capital for significant expansion of marketing activities and physical plant capabilities. Mezzanine financing provides capital to expand the firm to the point where it could become a viable IPO.

Question 6
Choice “a” is correct. Top-down approach selects a country first, then an industry, and then firms in that industry.
Choice “b” is incorrect. Bottom-up approach uses valuation to identify undervalued firms.
Choice “c” is incorrect. It cannot be determined if she is using growth at a reasonable price.
Choice “d” is incorrect. It cannot be determined if she is using a value approach.

Question 7
Choice “a” is correct. The expected P/E ratio for the Smith Industries is calculated as:

$$P = \frac{K(E_1)}{r_{CE} - g_{DIV}} =$$
$$P/E = \frac{K}{r_{CE} - g_{DIV}} = \frac{0.30}{(0.08 - 0.03)} = 6.0\text{x}$$

Choice “b” is incorrect. This answer incorrectly divides 1 minus the retention rate by the cost of equity.
Choice “c” is incorrect. This answer incorrectly divides K by g_{DIV} rather than dividing by (r_{CE}-g_{DIV}).
Choice “d” is incorrect. This answer incorrectly uses the 70% retention rate in the numerator.

Question 8
Choice “a” is correct. The calculations of the after-fee returns are as follows.

Fund	Initial Investment	Ending Value	Return Calculation	Annual Return
A	$1(1-0.03)=$0.97	$0.97(1.11)^2(1-0.013)^2$=1.1643	$(1.1643)^{.5}$-1=	7.90%
B	$1.00	$1(1.10)^2(1-.010)^2(1-0.05)$=1.1266	$(1.1266)^{.5}$-1=	6.14%
C	$1.00	$1(1.09)^2(1-.013)^2$=1.1574	$(1.1574)^{.5}$-1=	7.58%
D	$1.00	$1(1.11)^2(1-.013)^2(1-0.05)$=1.1403	$(1.1403)^{.5}$-1=	6.78%

Fund A has the highest return after fees.

Question 9
Choice “a” is correct. The return is calculated as follows:

$$P_{CS} = \frac{DIV_n + P_{CS_n}}{(1+r_{CE})^n} \Leftrightarrow \$32 = \frac{\$1.00 + \$38}{1+r} \Leftrightarrow r = \frac{\$39}{\$32} - 1 = 21.88\%$$

Remember to add in the projected dividend to the numerator of the calculation.

Choice “b” is incorrect. This is the result if the existing dividend of $0.94 is used in the calculations. But, the correct dividend to use is the expected dividend of $1.00.
Choice “c” is incorrect. This is the result if the dividend is incorrectly ignored in the calculation.
Choice “d” is incorrect. This is the result if the expected dividend is subtracted instead of added.

Question 10
Choice “b” is correct. Hi Tech is in the business of constantly developing and replacing its products with new and improved versions for markets in an ongoing state of evolution. Although each product has a definite life cycle (development, expansion, maturity, and decline), as long as Hi Tech has a pipeline of products in various phases of their own life cycles, the traditional life cycles analysis will not apply to the Company as a whole.

Choice “a” is incorrect. Hi Tech does not face the traditional industry life cycle of a one-product organization. Life cycles apply to products, not usually to companies. In any event, the Company does not appear to be in decline at this time.

Choice “c” is incorrect. The life cycle concept applies to products, but does not apply to a company with more than one product. Even if you want to apply a life cycle approach to Hi Tech, it does not appear to be one of acceleration at this time.

Choice “d” is incorrect. Hi Tech does not face the traditional industry life cycle of a one-product organization. The life cycle approach applies to products, not companies with more than one product. Furthermore, the life cycle approach is a secular approach. It is not in keeping with a life cycle approach to assume maturity and then regression back to previous stages based on short-term developments.