Quiz Solutions

Solution #1

C

Solution #2

A

Solution #3

C

Solution #4

A

Solution #5

C

Solution #6

D

Solution #7

D

Solution #8

$8,000 x 2 = $16,000 for the two prior years plus $8,000 for the current year.

Solution #9
Dividends = ($3.50/share)(35,000 shares) = $122,500

Retained Earnings (1998)	$485,000
Net Profits after Taxes (1999)	X
Dividends	122,500
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Retained Earnings (1999)	$565,000

Net Profits after Taxes = $202,500

Solution #10
Sales = CGS/(1-GPM) = 105,000 / (1-0.30) = $150,000
Total Assets = Sales / (Total Asset Turnover)
        = 150,000 / 0.50 = $300,000
Net Profits After Taxes = (ROA)x(Total Assets)

            = (0.02)x(300,000) = $6,000

Solution #11
A = 15,000 / 4.355 = $3,444.32

Year	Payment	Principal	Interest	Balance

0	0	$15,000		
1	$3,444.32	$ 1,944.32	$1,500.00	13,055
2	3,444.32	1,305.57		

The interest paid in the second year is $1,305.57

Solution #12
F = 500,000 (1.276) = $638,000

A = 638,000 / 6.353 = $100,425

Solution #13
value of the property upon retirement:
P = $90,000 , k = 7% , n = 8

F = P (FVIF) = 90,000 (1.718) = $154,620

value of the boat upon retirement:
P = $200,000 , k = 5% , n = 8
F = P (FVIF) = 200,000 (1.477) = $295,400

additional money needed upon retirement:
$295,400 $154,620 = $140,780

amount of money needed to deposit at the end of each year:
F = $140,780 , n = 8 , k = 9% , A = ?
A = F / FVIFA = 140,780 / 11.028 = $12,765.69

Solution #14

Asset	Rate of Return	Weight (W)	K x W
A	10%	0.50	5.00
B	20	0.30	6.00
C	30	0.20	6.00

			17.00

Expected rate of return = 17 percent.

Solution #15
K = RF + b(Km   RF)
 = 0.06 + 0.5(.12   .06) = .09 = 9%
The company should expect at least 9 percent return on the stock portfolio.

Solution #16
P = (1,250,000   900,000   50,000) / 7,500 = $40

Solution #17

a. $\dfrac{\$1{,}000{,}000 - \$350{,}000}{10{,}000} = \$65/\text{share}$

b. overvalued

c. market value of the assets is greater than the book value.

Solution #18

D

Solution #19

D

Solution #20

C

Solution #21

ka = (.40)(10%) + (.10)(15%) + (.50)(20%) = 15.5%

They should reject this project, because the weighted average cost of capital is 15.5 percent and the internal rate of return is 14 percent.

Solution #22

D

Solution #23

B

Solution #24

D

Solution #25

a.

$$Q = \dfrac{FC}{P - VC} = \dfrac{\$1{,}050{,}000}{\$35 - \$21} = 75{,}000 \text{ units}$$

b. $D = \dfrac{FC}{(1 - TVC/TR)} = \dfrac{\$1{,}050{,}000}{(1 - \$21/35)} = \$2{,}625{,}000$

c. DOL at base sales level of 100,000 units.

$$= \dfrac{Q(P - VC)}{Q(P - VC) - FC}$$

$$= \dfrac{100{,}000(\$35 - \$21)}{100{,}000(\$35 - 21) - \$1{,}050{,}000}$$

$$= 4.0$$

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Solution #26

a.

	Structure 1		Structure 2	
	EBIT	EPS	EBIT	EPS
Coordinates	40,000;	0	24,500;	0
	50,000;	0.60	50,000;	0.77
	60,000;	1.20	60,000;	1.07

b.   Calculation of indifference point

EPS (Structure 1) = EPS (Structure 2)

(EBIT-$40,000)(1-0.40)/10,000=(EBIT-$24,500)(1-0.40)/20,000

If EBIT is expected to be less than $55,500, structure 2 will maximize EPS. If EBIT is expected to be greater than $55,500, Structure 1 will maximize EPS.

Solution #27
C
Solution #28
B
Solution #29
C
Solution #30

a.

Year	EPS	Dividend per share
1999	$3.00	$ 1.50
1998	2.00	1.00
1997	1.00	.50

b.

Year	EPS	Dividend per share
1999	$3.00	$ 2.00
1998	2.00	1.25
1997	1.00	.50

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Solution #31

A = 5,000 / 3.993 = $1,252.19

Year	Payment	Principal	Interest	Balance
0	0	$5,000.00		
1	$1,252.19	$852.19	$ 400.00	4,147.81
2	1,252.19	920.37	331.83	3,227.44
3	1,252.19	993.99	258.20	

The principal paid in the third year is $993.99

Solution #32

a. Asset A   Asset B

Return x Pr   Return x Pr

10% x 0.30 = 3%   5% x 0.40 = 2%

15   x 0.40 = 6   15   x 0.20 = 3

20   x 0.30 = 6   25   x 0.40 = 10

Expected Return = 15%   Expected Return = 15%

b. Asset A

$(10\% - 15\%)^2$ x 0.30 = 7.5%

$(15\% - 15\%)^2$ x 0.40 =   0%

$(20\% - 15\%)^2$ x 0.30 = 7.5%

                    15%

Standard Deviation of A = 3.87%

Asset B

$(5\% - 15\%)^2$ x 0.40 = 40%

$(15\% - 15\%)^2$ x 0.20 = 0%

$(25\% - 15\%)^2$ x 0.40 = 40%

                    80%

Standard Deviation of B = 8.94%

c. CVA = 3.87 / 15 = 0.26   CVB = 8.94 / 15 = 0.60

d. Asset A; for 15% rate of return and lesser risk.

Solution #33

k_i = 5.6%

k_p = 12.9%

kn = 21.34%
ka = (.3)(5.6) + (.05)(12.9) + (.65)(21.34) = 16.20%

Solution #34
a.

Bond issue interest = 10,000,000(0.10) = $1,000,000
Current interest   = 50,000,000(0.10) = 5,000,000

                                        $6,000,000

$$\text{DFL at base level EBIT (Bond Issue)} = \frac{25,000,000}{25,000,000 - 6,000,000} = 1.32$$

$$\text{DFL at base level EBIT (stock Issue)} = \frac{25,000,000}{25,000,000 - 5,000,000} = 1.25$$

b.
Financial Breakeven Point (Bond Issue) = $6,000,000

Financial Breakeven Point (Stock Issue) = $5,000,000

Solution #35
a. The maximum dividend per share the firm can pay is:

$11,600,000 / 2,000,000 shares = $5.80 / share

b.

Preferred stock	$ 500,000	$ 500,000	$ 500,000
Common stock	2,000,000*	2,000,000	2,100,000**
Paid in capital	10,000,000	10,000,000	11,900,000
Retained earnings	11,600,000	8,600,000	9,600,000
	_____	_____	_____
Total S.E.	$24,100,000	$21,100,000	$24,100,000

* (4,000,000 shares at $0.50 par)
**(2,100,000 shares at $1 par)

c. 1) $10 / share
   2) $19.05; 2,000,000 shares x $20/share = $40,000,000

market value

2,100,000 shares x ? /share = $40,000,000

market value