FIN350 In Class Work No. 2

The following list of equations will be reprinted on quiz 2.

For bond: YTM = Current yield + Capital gains yield
EVA = After-tax Operating Income / After-tax Capital costs = NOPAT – After-tax Cost of Capital
MVA = Market value of equity supplied (book value)

Value of a Firm = Present Value of Future FCFs for all Investors
FCFs for all investors = OCF-Gross Investment in Operating Capital
  = (OCF-Dep)-(Gross Investment in Operating Capital-Dep)
  = NOPAT-Net Investment in Operating Capital
  = NOPAT- Change in Total Operating Capital

Value of Equity = Present Value of Future FCFs for Common Stock Investors
FCFs for Common Stock Investors = NCF-Gross Investment in Operating Capital
  = (NCF-Dep)-(Gross Investment in Operating Capital-Dep)
  = NI-Net Investment in Operating Capital
  = NI- Change in Total Operating Capital

Total Operating Capital = Net Operating Working Capital (NOWC) + Net Fixed Assets
  = Current Assets-Non-interest Bearing Current Liabilities + Net Fixed Assets

Change in Total Operating Capital = Total Operating Capital in Year t+1 - Total Operating Capital in Year t

NOPAT = EBIT*(1-Tax Rate)

Current ratio = Current assets / Current liabilities
FA turnover = Sales / Net fixed assets
TA turnover = Sales / Total assets
Inv. turnover = Sales / Inventories
DSO = Receivables / Average sales per day
  = Receivables / Sales/365
Debt ratio (D/A) = Total debt / Total assets
Profit margin = Net income / Sales
BEP = EBIT / Total assets
ROA = Net income / Total assets
ROE = Net income / Total common equity
P/E = Price / Earnings per share
M/B = Mkt price per share / Book value per share
ROE = (NI/Sales) x (Sales/TA) x (TA/Equity)
ROA = (NI/Sales) x (Sales/TA)
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Table 3–2
Enima–Em has the following financial information:

- Net Income: $70,000
- Taxable Income (EBIT): $120,000
- Depreciation Expense: $15,000
- Tax rate: 25%
- Increase in Current Assets: $5,000
- Decrease in A/P and Accruals: $5,000
- Decrease in Gross Fixed Assets: $100,000

No changes were made in interest payable or taxes payable.

1) Based on the information in Table 3–2, what is Enima–Em’s change in total operating capital?
   A) $–105,000  B) $+20,000  C) $+10,000  D) $–195,000

2) Based on the information in Table 3–2, what is Enima–Em’s NOPAT?
   A) $+90,000  B) $+70,000  C) $–30,000  D) $+10,000  E) $–75,000

3) Which of the following statements is most correct?
   - a. Accounts receivable show up as current liabilities on the balance sheet.
   - b. Dividends paid reduce the net income that is reported on a company’s income statement.
   - c. If a company pays more in dividends than it generates in net income, its balance of retained earnings reported on the balance sheet will fall.
   - d. Statements a and b are correct.
   - e. All of the statements above are correct.

4) Which term describes the action of recognizing more expense and charge in bad years to ensure a growing string of profits in the future (so investors might think the firm is making turnaround and growing)?
   - a. seasonality
   - b. window dressing
   - c. earnings smoothing
   - d. big bath
   - e. none of above

5) The current ratio of a firm would be increased by which of the following?
   - a. land held for investment is sold for cash
   - b. equipment is purchased, financed by a long-term debt issue
   - c. inventories are sold for cash
   - d. inventories are sold in exchange for a long-term note
   - e. both a and c above
### Table 4-1

#### Jones Company

**Balance Sheet**

<table>
<thead>
<tr>
<th>Assets:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and marketable securities</td>
<td>$400,000</td>
<td></td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>1,025,000</td>
<td></td>
</tr>
<tr>
<td>Inventories</td>
<td>1,937,500</td>
<td></td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>124,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td><strong>$3,486,500</strong></td>
<td></td>
</tr>
<tr>
<td>Fixed assets</td>
<td>2,800,000</td>
<td></td>
</tr>
<tr>
<td>Less: accum. depr.</td>
<td>(1,087,500)</td>
<td></td>
</tr>
<tr>
<td><strong>Net fixed assets</strong></td>
<td><strong>$1,712,500</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>$5,199,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable</td>
<td>$340,000</td>
<td></td>
</tr>
<tr>
<td>Notes payable</td>
<td>825,000</td>
<td></td>
</tr>
<tr>
<td>Accrued taxes</td>
<td>42,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td><strong>$1,207,000</strong></td>
<td></td>
</tr>
<tr>
<td>Long-term debt</td>
<td>1,175,000</td>
<td></td>
</tr>
<tr>
<td>Owner's equity</td>
<td>2,817,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total liabilities and owner's equity</strong></td>
<td><strong>$5,199,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

| Net sales (all credit) | $7,375,000 | |
| Less: Cost of goods sold | (4,312,500) | |
| Selling and administrative expense | (1,387,500) | |
| Depreciation expense | (135,000) | |
| Interest expense | (127,000) | |
| Earnings before taxes | 1,413,000 | |
| Income taxes | (625,000) | |
| **Net income** | **$788,000** | |

| Common stock dividends | $488,000 | |

6). Based on the information in Table 4-1, assuming that no preferred dividends were paid, the return on common equity is:

- a. 54%
- b. 28%
- c. 17%
- d. 11%
- e. 21%

7). Based on the information in Table 4-1, the long-term asset turnover ratio is:

- a. 3.47 times
- b. 0.43 times
- c. 4.31 times
- d. 2.35 times
- e. 0.29 times
8) Casey Motors recently reported the following information:

- EBIT=$720,000
- Tax expense=$100,000.
- Interest expense = $200,000.
- Total investor-supplied operating capital employed = $6 million.
- After-tax cost of capital = 10%*$6m=$600,000.

What is the company's EVA?

a. -$120,000  
b. -$180,000  
c. $ 0  
d. $20,000  
e. $220,000

9) Which of the following items is NOT included in current assets?

a. Accounts payable.  
b. Inventory.  
c. Accounts receivable.  
d. Cash.  
e. Short-term, highly liquid, marketable securities.

10) How much would an investor expect to pay for a bond with a 9% annual coupon that matures in 5 years if the interest rate is 7%? (The par value of the bond is $1,000)

A) $696.74  
B) $1,075.82  
C) $1,123.01  
D) $1,082.00

11) If an investor purchases a bond when its current yield is higher than the coupon rate, then the bond's price will be expected to:

A) increase over time, reaching par value at maturity.  
B) decline over time, reaching par value at maturity.  
C) be less than the face value at maturity.  
D) exceed the face value at maturity.

12) What is the current yield of a bond with a 6% coupon, four years until maturity, and a price of $750?

A) 6.0%  
B) 8.0%  
C) 12.0%  
D) 14.7%
13). The existence of an upward-sloping yield curve suggests that:
   A) interest rates will be increasing in the future.
   B) bonds will not return as much as common stocks.
   C) bonds should be selling at a discount to par value.
   D) real interest rates will be decreasing soon and then increasing later.

14). U.S. Treasury bond yields do not contain a:
   A) coupon interest payment.
   B) nominal interest rate.
   C) yield to maturity.
   D) default premium.

15) Which of the following bonds would be likely to exhibit a greater degree of interest-rate risk?
    That is, which bond's price will be most sensitive to changes in interest rate?
   A) A zero-coupon bond with 30 years until maturity.
   B) A coupon-paying bond with 20 years until maturity.
   C) A floating-rate bond with 20 years until maturity.
   D) A zero-coupon bond with 20 years until maturity.

16). If a bond has a Standard & Poor's rating of BBB, it is referred to as a(n) _________.
   a. Junk bond
   b. James Bond.
   c. High GPA bond.
   d. Barry's bond.
   e. Investment grade bond.

17) Palmer Products has outstanding bonds with an annual 8 percent coupon. The bonds have a par value of $1,000 and a price of $865. The bonds will mature in 11 years. What is the yield to maturity on the bonds?
   a. 10.09%
   b. 11.13%
   c. 9.25%
   d. 9.89%
   e. 8.00%

18) Assume interest rates on long-term Treasury bond and two corporate bonds are as follows:

   Treasury bond : 7.72%
   Corporate bond with rating A : 9.64%
   Corporate bond with rating BBB : 10.18%

   All three bonds will mature in 20 years; they all have very good liquidity.
The differences in interest rates among these bonds are caused primarily by

a. Inflation differences.
b. Inflation premium.
c. Default risk differences.
d. Maturity risk differences.

19. If the Treasury yield curve is downward sloping, what is the yield to maturity on a 10-year Treasury bond, relative to that on a 1-year Treasury bond?

a. The yields on the two bonds are equal.
b. The yield on a 10-year Treasury bond will always be higher than the yield on a 1-year Treasury bond.
c. It is impossible to tell without knowing the coupon rates of the bonds.
d. The yield on the 10-year Treasury bond is less than the yield on a 1-year Treasury bond.
e. It is impossible to tell without knowing the relative default risks of the two Treasury bonds.

20. Find the current yield and the capital gains yield for a 10-year, 10% annual coupon bond that sells for $900, and has a face value of $1,000.

A) 10%, 0.67%
B) 11.11%, 0.64%
C) 11.11%, 11.75%
D) 9%, 0.76%
E) 9%, 0.67%

\[
\text{current yield} = \frac{\text{coupon}}{\text{price}} = \frac{100}{900} = 11.11\%
\]
\[
\text{yield to maturity} = \text{from calculator} = 11.75\%
\]
\[
\text{capital gain yield} = \text{yield to maturity} - \text{current yield} = 0.64\%
\]

Key: aacda bcdad  abada eacdb