UNIVERSITI UTARA MALAYSIA

FINAL EXAMINATION
FIRST SEMESTER SESSION 2009/2010

CODE/COURSE NAME : BWFF2023 / FINANCIAL MANAGEMENT II

DATE : 13 November 2009
TIME : 03.00 – 05.30 PM
PLACE : DMAS, DTSO, TE, IKIP, KIA, KYM, PMI.

ARAHAN :
1. Buku peperiksaan ini mengandungi TUJUH (7) soalan struktur dalam EMPATBELAS (14) halaman bercetak tidak termasuk kulit hadapan, jadual nilai masa wang dan lampiran rumus.
2. Sila jawab SEMUA soalan dalam ruangan yang disediakan di dalam buku soalan ini.

INSTRUCTION :
1. This examination book has SEVEN (7) structured questions that are included in FOURTEEN (14) printed pages excluding the cover page, time value of money tables and formula sheet
2. Answer ALL questions in the space provided in the question paper.

MATRIC NO. : ____________________________ (in words)
(IDENTIFICATION NO.: ------------------------------------------ (in numbers)
LECTURER'S NAME : ________________________________
GROUP: ________________________ TABLE NUMBER : ________
QUESTION 1 (8 marks)

A. K and K Berhad's bonds mature in 14 years and pay 7 percent interest annually. If you purchase the bonds for RM 1,110, find your yield to maturity (YTM)? [3 marks]

B. Sushi Berhad's bond have par value of RM 1,000. The bonds pay semiannual interest of RM 40 and mature in five years.

i. How much would you pay for Sushi bonds if your required rate of return is 10 percent? [2 marks]

ii. How much would you pay if your required rate of return is 8 percent? [2 marks]

iii. Interpret your findings in parts (i) and (ii) [1 marks]
QUESTION 2 (14 MARKS)

A. You intend to purchase Bama Berhad common stock at RM 42.65 per share, hold it for a year and sell it after a dividend of RM 5.80 is paid. How much should the share price appreciate to, if your required rate of return is 15 percent?

[3 marks]

B. You are considering two investments. The first is a preferred stock that has a par value of RM 100. The preferred stock is currently selling at RM 78 and pays an annual dividend of RM 9.50. Your required rate of return for this stock is 12 percent. The second investment is a common stock that recently paid a RM 3.40 dividend. This common stock is expected to grow 5 percent indefinitely. The stock is currently selling for RM 25.80 and you think that a reasonable required rate of return for the stock is 18 percent.

i. Calculate the value of each security based on your required rate of return.

[5 marks]
ii. Which investment(s) should you accept? Why?

[2 marks]

C. South Berhad is expected to pay the following dividends over the next three years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Dividend per share (RM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.00</td>
</tr>
<tr>
<td>2</td>
<td>3.00</td>
</tr>
<tr>
<td>3</td>
<td>3.50</td>
</tr>
</tbody>
</table>

Afterwards the company pledges to maintain a constant 4 percent growth rate in dividends, forever and the required rate of return is 12 percent.

What is the value of South Berhad’s share?

[4 marks]
QUESTION 3 (15 marks)

A firm currently has the following capital structure which it views as optimal.

Debt: RM 3,000,000 par value of 9 percent bonds outstanding with an annual before-tax cost of debt of 7.97 percent on a new issue. The bonds currently sell for RM 1150 per RM 1000 par value.

Common stock: 46,000 shares outstanding currently selling for RM 50 per share. The firm expects to pay a RM 5.00 dividend per share one year from now and is experiencing a 3.97 percent growth rate in dividends, which it expects to continue indefinitely.

The firm's marginal tax rate is 40 percent, and it expects to be able to finance all new projects with debt and internal common equity.

i. Define the term cost of capital. 

[1 mark]

ii. Calculate the current total value of the firm

[4 marks]

iii. What is the proportion of debt in this firm's capital structure?

[2 marks]
iv. Calculate the after-tax cost of debt. [2 marks]

v. Calculate the after-tax cost of common stock. [2 marks]

vi. What is the firm's weighted average cost of capital (WACC)? [3 marks]

vii. Why do we calculate a firm's weighted average cost of capital? [1 mark]
QUESTION 4 (20 MARKS)

Brilliant’s Corporation is considering the purchase of a new production machine for RM 100,000. The purchase of this new machine will result in an increase in earnings before interest and taxes of RM 25,000 per year. To operate this machine properly, workers would have to go through a brief training session that would cost RM 5,000 after tax.

In additional, it would cost RM 5,000 after tax to install this machine properly. Since this machine is extremely efficient, its purchase would necessitate an increase in inventory of RM 25,000. This machine has an expected life of 10 years, after which it will have no salvage value.

Finally, to purchase the new machine, it appears that the firm would have to borrow RM 80,000 at 10 percent interest from its local bank, resulting in additional interest payments of RM 8,000 per year. Assume simplified straight line depreciation and that this machine is being depreciated down to zero, a 34 percent marginal tax rate, and a required rate of return of 12 percent.

i. What is the initial outlay associated with this new project?

(5 marks)

ii. What are the annual after tax cash flows associated with this project for years 1 through 9?

[6 marks]
iii. What is the terminal cash flow in year 10?

[3 marks]

iv. Should this machine be purchased?

[6 marks]
QUESTION 5 (25 marks)

The management of Muhibbah Company is considering an expansion project for their current business. RM 125,000 is needed for the expansion and two options has been proposed.

Under Option I, the project will be financed by issuing new common stocks that can be sold for RM5 per share.

Option II involves the use of financial leverage. A 10-year bonds can be issued with 8 percent coupon rates.

The company corporate income tax is 30 percent and the existing preferred stock pay dividends of RM 4 per share. The existing capital structures for Muhibbah Company are as follows:

<table>
<thead>
<tr>
<th></th>
<th>RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds: (9% RM1,000 par value)</td>
<td>20,000</td>
</tr>
<tr>
<td>Preferred Stock: (RM 25 par value)</td>
<td>15,000</td>
</tr>
<tr>
<td>Common Stock : (RM2 par value)</td>
<td>25,000</td>
</tr>
</tbody>
</table>

i. Briefly explain the meaning of EBIT-EPS indifference point and why is it important for management. [2 marks]
ii. Calculate the indifference point of EBIT-EPS for the two financial proposals.

[10 marks]
iii. Prepare an analytical income statement that proves EPS will be the same regardless of the plan chosen at the EBIT level found in part (ii). [8 marks]

iv. If EBIT is expected to be RM 20,000, which financial proposal should you select? Explain by EBIT-EPS analysis chart. [5 marks]
QUESTION 6 (8 marks)

A. Define the following term.

i. Declaration date [1 mark]

ii. Ex dividend date [1 mark]

iii. Payment date [1 mark]

iv. Record date [1 mark]
B. Serikandi Berhad has an equity structure as follows:

**Equity Structure of Serikandi Berhad as at 31 December 2008**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Stock (RM 1 par, 1,000,000 shares)</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Contributed Capital in excess of par</td>
<td>600,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>700,000</td>
</tr>
<tr>
<td><strong>Total Common Stockholders’ Equity</strong></td>
<td>2,300,000</td>
</tr>
</tbody>
</table>

i. Serikandi Berhad has decided to pay 10 percent bonus share direct to the existing shareholders. The market value of the company is RM 5. What is the changes to the new equity structure of Serikandi Berhad? [2 marks]

ii. If the company decided to split the shares 2:1, what is the new structure of equity of Serikandi Berhad? [2 marks]
The Megastructure Airplane Company has the following modified income statement (RM 000) at 150,000 units of production.

<table>
<thead>
<tr>
<th></th>
<th>RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>10,000</td>
</tr>
<tr>
<td>Variable costs</td>
<td>6,500</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>2,200</td>
</tr>
<tr>
<td>EBIT</td>
<td>1,300</td>
</tr>
<tr>
<td>Interest at 10%</td>
<td>500</td>
</tr>
<tr>
<td>EBT</td>
<td>800</td>
</tr>
<tr>
<td>Tax 35%</td>
<td>320</td>
</tr>
<tr>
<td>EAT</td>
<td>480</td>
</tr>
<tr>
<td>Number of shares</td>
<td>20,000</td>
</tr>
</tbody>
</table>

i. What is Megastructure's contribution margin? [2.5 marks]

ii. What is Megastructure's dollar break-even point? [2.5 marks]
iii. Calculate Megastructure’s degree of financial leverage (DFL).

[2 marks]

iv. Calculate Megastructure’s degree of operating leverage (DOL).

[2 marks]

v. Calculate Megastructure’s degree of combined leverage (DCL).

[1 marks]
APPENDIX 1

\[ FV = PV(1+i)^n \]

\[ PV = \frac{FV}{(1+i)^t} \]

\[ FV = PV(PVIF_{i,n}) \]

\[ PV_A = PMT \left[ \frac{1 - \frac{1}{(1+i)^n}}{i} \right] \]

\[ EAR = \left(1 + \frac{\text{quoted rate}}{m}\right)^m - 1 \]

\[ PV_A = PV(PVIF_{i,n}) \]

\[ FV = PV \left(1 + \frac{i}{m}\right)^m \]

\[ CY = \frac{PMT}{V_b} \]

\[ PV = \frac{PP}{i} \]

\[ V_\alpha / P_0 = \frac{D}{R} \]

\[ P_0 = \frac{D_0(1+g)}{R - g} = \frac{D_1}{R - g} \]

\[ V_\alpha = \frac{D_1}{(1+k_\alpha)} + \frac{P_1}{(1+k_\alpha)} \]

\[ P_0 = \frac{D_1}{R - g} \]

\[ R_E = \frac{D_1}{P_0} + g \]

\[ R_E = R_f + \beta_E(E(R_m) - R_f) \]

\[ R_f = \frac{D}{P_0} \]

\[ AYTM = \frac{I + \left[ \frac{V_b - Mo}{n} \right]}{\left[ \frac{V_b + Mo}{2} \right]} \]

\[ WACC = \text{[after tax cost of debt X % of debt financing]} + \text{[cost of equity X % of equity financing]} \]

\[ WACC = \frac{D}{V} R_f(1-T) + \frac{PS}{V} R_{ps} + \frac{CE}{V} R_{ce} \quad K_{ea} = k_f + \beta_k (k_m - k_f) \]
APPENDIX 2

\[ NPV = \sum_{t=1}^{n} \frac{FCF_t}{(1 + k)^t} - IO \]

\[ IO = \sum_{t=1}^{n} \frac{FCF_t}{(1 + IRR)^t} \]

\[ DOL_s = \frac{S - VC}{S - VC - F} \]

\[ DFL_{EBIT} = \frac{EBIT}{EBIT - I} \]

\[ DFL_{EBIT} = \frac{EBIT}{EBIT - I} \]

\[ \frac{(EBIT - I)(1 - t) - P}{S_s} = \frac{(EBIT - I)(1 - t) - P}{S_s} \]

\[ DCL_s = (DOL_s) \times (DFL_{EBIT}) \]

\[ EAA = \frac{NPV}{PVIFA_{k,n}} \]

\[ NP_2 = \sum_{t=1}^{n} \frac{SI_t}{(1 + k_d)^t} + \frac{SM}{(1 + k_d)^n} \]
<table>
<thead>
<tr>
<th>1%</th>
<th>2%</th>
<th>3%</th>
<th>4%</th>
<th>5%</th>
<th>6%</th>
<th>7%</th>
<th>8%</th>
<th>9%</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9903</td>
<td>0.9504</td>
<td>0.9091</td>
<td>0.8734</td>
<td>0.8335</td>
<td>0.7921</td>
<td>0.7513</td>
<td>0.7115</td>
<td>0.6727</td>
<td>0.6351</td>
</tr>
<tr>
<td>1.9704</td>
<td>1.9135</td>
<td>1.8681</td>
<td>1.8254</td>
<td>1.7834</td>
<td>1.7426</td>
<td>1.7031</td>
<td>1.6650</td>
<td>1.6283</td>
<td>1.5928</td>
</tr>
<tr>
<td>2.9503</td>
<td>2.8659</td>
<td>2.7832</td>
<td>2.7017</td>
<td>2.6216</td>
<td>2.5430</td>
<td>2.4665</td>
<td>2.3911</td>
<td>2.3172</td>
<td>2.2446</td>
</tr>
</tbody>
</table>

**INDICE 4**

**PRESENT VALUE OF AN ANNUITY OF $1 PER PERIOD FOR N PERIODS**

**Values are rounded to 4 decimal places.**