**Multiple Choice Questions (Chapter 11):**

1. When a firm has no debt, then such a firm is known as:
I) an unlevered firm; II) a levered firm; III) an all-equity firm

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| A.  | I only |

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| --- | --- |
| B.  | II only |

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| --- | --- |
| C.  | III only |

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| --- | --- |
| **D.**  | I and III only |

2. The capital structure of the firm can be defined as:

I) the firm's mix of different debt securities;
II) the firm's mix of different securities used to finance assets;
III) the market imperfection that the firm's managers can exploit

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| --- | --- |
| A.  | I only |

|  |  |
| --- | --- |
| **B.**  | II only |

|  |  |
| --- | --- |
| C.  | III only |

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| --- | --- |
| D.  | I, II, and III |

3. Modigliani and Miller's Proposition I states that:

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| **A.**  | the market value of any firm is independent of its capital structure |

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| B.  | the market value of a firm's debt is independent of its capital structure |

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| --- | --- |
| C.  | the market value of a firm's common stock is independent of its capital structure |

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| D.  | none of the options |

4. If an investor buys a portion (*X*) of the equity of a levered firm, then his/her payoff is:

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| --- | --- |
| A.  | (*X*) × (profits) |

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| --- | --- |
| B.  | (*X*) × (interest) |

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| --- | --- |
| **C.**  | (*X*) × (profits - interest) |

|  |  |
| --- | --- |
| D.  | (1/*X*) × (profits - interest) |

5. Health and Wealth Company is financed entirely by common stock that is priced to offer a 15% expected return. If the company repurchases 25% of the common stock and substitutes an equal value of debt yielding 6%, what is the expected return on the common stock after refinancing? (Ignore taxes.)

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| --- | --- |
| **A.**  | 18.0% |

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| --- | --- |
| B.  | 21.0% |

|  |  |
| --- | --- |
| C.  | 15.0% |

|  |  |
| --- | --- |
| D.  | 10.5% |

*rE* = *WACC* + (*WACC* - *rD*) (*D*/*E*) = 15 + (15 - 6) (0.25/0.75) = 18%.

6. MM Proposition II states that:

I) the expected return on equity is positively related to leverage;
II) the required return on equity is a linear function of the firm's debt to equity ratio;
III) the risk to equity increases with leverage

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| A.  | I only |

|  |  |
| --- | --- |
| B.  | II only |

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| --- | --- |
| C.  | III only |

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| --- | --- |
| **D.**  | I, II, and III |

7. A firm has a debt-to-equity ratio of 1.0. If it had no debt, its cost of equity would be 12%. Its cost of debt is 9%. What is its cost of equity if there are no taxes?

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| --- | --- |
| A.  | 21% |

|  |  |
| --- | --- |
| B.  | 18% |

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| --- | --- |
| **C.**  | 15% |

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| --- | --- |
| D.  | 16% |

*rE* = 12 + (12 - 9)x1.0 = 15%.

8. The main advantage of debt financing for a firm is:

I) no SEC registration is required for bond issues;
II) interest expenses are tax deductible;
III) unlevered firms have higher value than levered firms

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| --- | --- |
| A.  | I only |

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| --- | --- |
| **B.**  | II only |

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| --- | --- |
| C.  | III only |

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| --- | --- |
| D.  | I and III only |

9. If a firm permanently borrows $50 million at an interest rate of 10%, what is the present value of the interest tax shield? Assume a 30% marginal corporate tax rate.

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| --- | --- |
| A.  | $50.0 million |

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| --- | --- |
| B.  | $25.0 million |

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| --- | --- |
| **C.**  | $15.0 million |

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| --- | --- |
| D.  | $1.5 million |

PV of interest tax shield = (0.30)(50) = $15.0 million.

10. Given corporate taxes, why does adding debt to the capital structure increase firm value?

I) Extra cash flow goes to the firm's investors rather than the tax authorities.
II) Earnings before interest and taxes are fully taxed at the corporate rate.
III) Personal tax rates are the same as marginal corporate tax rates.

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| **A.**  | I only |

|  |  |
| --- | --- |
| B.  | II only |

|  |  |
| --- | --- |
| C.  | III only |

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| --- | --- |
| D.  | II and III only |

11. Assuming that bonds are sold at a fair price, the benefits from the interest tax shield go to the:

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| --- | --- |
| A.  | managers of the firm. |

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| --- | --- |
| B.  | bondholders of the firm. |

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| --- | --- |
| **C.**  | stockholders of the firm. |

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| --- | --- |
| D.  | lawyers of the firm. |

12. Assume the marginal corporate tax rate is 30%. The firm has no debt in its capital structure. It is valued at $100 million. What would be the value of the firm if it issued $50 million in perpetual debt and repurchased the same amount of equity?

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| --- | --- |
| A.  | $65 million |

|  |  |
| --- | --- |
| **B.**  | $115 million |

|  |  |
| --- | --- |
| C.  | $100 million |

|  |  |
| --- | --- |
| D.  | $150 million |

*VU* = 100; (*TC*)(*D*) = 0.3(50) = 15; *VL* = *VU* + *TCD* = 100 + 15 = $115.

13. What is the relative tax advantage of debt? Assume that personal and corporate taxes are given by: *TC* = (corporate tax rate) = 35%; *TpE* = personal tax rate on equity income = 30%; and *Tp* = personal tax rate on interest income = 20%.

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| --- | --- |
| **A.**  | 1.76 |

|  |  |
| --- | --- |
| B.  | 1.16 |

|  |  |
| --- | --- |
| C.  | 1.35 |

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| --- | --- |
| D.  | 0.86 |

Relative advantage = (1 - 0.2)/[(1 - 0.3)(1 - 0.35)] = 1.76.

14. Suppose that your firm's current unlevered value is $800,000, and its marginal corporate tax rate is 35%. Also, you model the firm's PV of financial distress as a function of its debt ratio (*D*/*V*) according to the relation: PV of financial distress = 800,000 × (*D*/*V*)2. What is the firm's levered value if it issues $200,000 of perpetual debt to buy back stock?

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| --- | --- |
| **A.**  | $820,000. |

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| --- | --- |
| B.  | $869,555. |

|  |  |
| --- | --- |
| C.  | $920,000. |

|  |  |
| --- | --- |
| D.  | $350,000. |

Value of firm = value of unlevered firm + PV(tax shield) - PV(cost of financial distress); Value of firm (in 000s) = 800 + (0.35 × 200) - 800 × [(200/800)^2] = 820.

15. Which of the following entities likely has the highest cost of financial distress?

|  |  |
| --- | --- |
| **A.**  | A pharmaceuticals development company |

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| --- | --- |
| B.  | A downtown bayfront hotel |

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| --- | --- |
| C.  | A yacht leasing company |

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| --- | --- |
| D.  | A real estate investment trust |

The more tangible the assets available to liquidate, the lower the cost to exercise bankruptcy.

16. Which of the following is NOT a potential result from financial distress?

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| --- | --- |
| A.  | Suppliers refuse to extend terms to the firm. |

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| B.  | Key employees leave the firm, fearing the firm won't last. |

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| C.  | The firm has difficulty issuing additional bonds. |

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| **D.**  | Due to interest tax shields, the firm's effective tax rate is very low. |

17. According to the trade-off theory of capital structure:

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| **A.**  | optimal capital structure occurs when the present value of tax savings on account of additional borrowing just offsets the increase in the present value of costs of distress. |

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| --- | --- |
| B.  | optimal capital structure occurs when the stockholders' right to default is balanced by the bondholders' right to get interest and principal payments. |

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| --- | --- |
| C.  | optimal capital structure occurs when the benefits of limited liability is just offset by the value of the firm's lawyers' claims. |

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| D.  | none of the options. |

18. What does "risk shifting" imply?

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| **A.**  | When faced with bankruptcy, managers tend to invest in high-risk, high-return projects. |

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| --- | --- |
| B.  | When faced with bankruptcy, managers do not invest more equity capital. |

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| --- | --- |
| C.  | When faced with bankruptcy, managers may make accounting changes to conceal the true extent of the problem. |

|  |  |
| --- | --- |
| D.  | When faced with bankruptcy, managers invest in low risk projects to conserve capital. |

19. When shareholders pursue strategies such as taking excessive risks or paying excessive dividends, these will result in:

I) no action by debtholders since these are equityholder concerns;
II) positive agency costs, as bondholders act on various restrictions and covenants, which will diminish firm value;
III) investments of the same risk class that the firm is in

|  |  |
| --- | --- |
| A.  | I only |

|  |  |
| --- | --- |
| **B.**  | II only |

|  |  |
| --- | --- |
| C.  | III only |

|  |  |
| --- | --- |
| D.  | I and III only |

20. The trade-off theory of capital structure predicts that:

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| A.  | unprofitable firms should borrow more than profitable ones. |

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| --- | --- |
| **B.**  | safe firms should borrow more than risky ones. |

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| --- | --- |
| C.  | rapidly growing firms should borrow more than mature firms. |

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| --- | --- |
| D.  | increasing leverage increases firm value, especially at high debt ratios. |

21. The pecking order theory of capital structure implies that:

I) high-risk firms will end up borrowing more;
II) firms prefer internal finance;
III) firms prefer debt to equity when external financing is required

|  |  |
| --- | --- |
| A.  | I only |

|  |  |
| --- | --- |
| B.  | II only |

|  |  |
| --- | --- |
| **C.**  | II and III only |

|  |  |
| --- | --- |
| D.  | III only |

22. What signal is sent to the market when a firm decides to issue new stock to raise capital?

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| --- | --- |
| A.  | Bond markets are overpriced. |

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| --- | --- |
| B.  | Bond markets are underpriced. |

|  |  |
| --- | --- |
| C.  | Stock price is too low. |

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| --- | --- |
| **D.**  | Stock price is too high. |