

Name: \_\_\_\_\_ ID: \_\_\_\_\_

**Birla Institute of Technology & Science, Pilani**  
**FIN F315 / ECON F315      Financial Management**  
**Mid-semester Test (Open Book) - 08 Mar 2018    Weight-age 30%    Time 90 Min.**

**Part A - Suggested Time - 60 Minutes**

- I. There are **28 multiple choice questions**.
- II. Question 1 through 23 are of 2 marks each and 24 to 28 are of 3 marks each (**Total 61 marks out of 90**)  
There is **NO negative marking**. For each question, choose only **ONE best option** and write it in the table given below. Answers written elsewhere will **NOT** be evaluated.  
Use the back-side of the main answer sheet for rough work.

**Table for Multiple Choice Questions**

**Write the answers in the table below (overwritten/ambiguous answers may attract penalty)**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>		

**Imp note:** The face value of bond is assumed to be Rs 100. However, in few instances the face value of the bond may differ. All interest rates are on per annum basis. Compounding frequency is annual unless explicitly stated otherwise.

1. A company currently has a debt-to-equity ratio (using book-value) of 1.25. Common shareholder's equity is \$4,000,000, consisting of 1.5 million shares outstanding with a current price of \$28/share. Part of the company's debt currently outstanding is \$1,000,000 of convertible bonds. Each \$1,000 par value bond can be converted into 50 common shares at any time during the next three years. The coupon rate on the bonds is 6 percent with interest paid annually. If all convertible bonds are converted, the company's debt-capital ratio is closest to:

**Note:** If the bonds are converted liabilities are decreased by the book value of the bonds and equity increases by the same amount.

- A. 44.4%
- B. 42.5%
- C. 80%
- D. 73.5%
- E. None of the above

2. A company's \$100 par perpetual preferred stock has a dividend rate of 7 percent and a required rate of return of 11 percent. The company's earnings are expected to grow at a constant rate of 3 percent per year. If the market price per share for the preferred stock is \$75, the preferred stock is most appropriately described as being:

- A. overvalued by \$13.35
- B. undervalued by \$15.13
- C. undervalued by \$ 36.36
- D. overvalued by \$11.36
- E. None of the above

3. Which of the following statements regarding the Markowitz efficient frontier is *least likely* to be correct? The optimal portfolio for:

- A. an investor is the portfolio that lies on the efficient frontier and provides her with the greatest level of utility.
- B. an investor is found at the point of tangency between the efficient frontier and an investor's highest utility curve.
- C. a more risk-averse investor will lie inside the efficient frontier but will lie outside the efficient frontier for a less risk-averse investor
- D. a less-risk averse investor is likely to lie further toward the right on the efficient frontier compared to a more-risk averse investor
- E. None of the above

4. You are about to make an investment and there are three alternative (A1, A2, and A3) investment plans offered to you that you are considering. All the three plans will pay you equal Rupee amount in two years time, but:

- The interest rate offered in A1 and A2 is same but the compounding for A2 is monthly and A1 is quarterly
- Compounding frequency for A3 and A2 is same but the interest rate offered in A3 is higher

The present value of which alternative will be lowest?

- A. A2
- B. A3
- C. A1
- D. Same for all
- E. None of the above

5. Which of the following properties of correlation and covariance is most likely correct?

- A. As the number of securities in a portfolio increases the importance of covariance decreases all else equal.
- B. When correlation between two variables is  $> 0$  the variables have a perfectly positive linear relationship.
- C. Information on correlation and covariance generally result in conflicting conclusions.
- D. Correlation only deals with linear association between variables.
- E. Covariance between two variables can be simply computed as ratio of their correlation coefficient and the product of individual standard deviations of the variables.

6. You estimated the expected value of ABC Ltd. as \$5.91 based on the probability distribution of ABC Ltd. for the current year:

Probability Distribution for ABC Ltd

Probability	EPS (\$)
0.12	7.75
0.45	6.2
0.33	5.5
0.1	3.75

The standard deviation of ABC Ltd. for the current year is closest to:

- A. 0.9662
- B. 0.9829
- C. 0.8816
- D. 0.9132
- E. None of the above

7. When a company finances share repurchases with cash:

- A. leverage increases, shareholders' equity decreases and assets remain unchanged.
- B. assets and shareholders' equity decrease and leverage remains unchanged.
- C. assets and shareholders' equity decrease and leverage increases.
- D. leverage decreases, shareholders' equity increases and assets remain unchanged.
- E. None of the above

8. The intercept of security characteristic line (SCL) is:

- A. Jensen's alpha
- B. Beta
- C. Risk-free interest rate
- D. Minimum variance
- E. None of the above

9. The type of risk that can be eliminated by diversification is called:

- A. Idiosyncratic risk
- B. Unique risk
- C. Systematic risk
- D. Both A and B
- E. All of the above

10. Stock A has an expected return of 10% per year and stock B has an expected return of 20%. If 40% of a portfolio's funds are invested in stock A, and the rest in stock B, what is the expected return on the portfolio of stock A and stock B?

- A. 10%
- B. 20%
- C. 12%
- D. 14%
- E. None of the above

11. For a two-stock portfolio (assume no short-selling), the possibility of creating a synthetic risk-free portfolio occurs when the correlation coefficient between the two stocks equals:

- A. +1
- B. -1
- C. 0
- D. Anywhere between 0 and +1

E. Anywhere between -1 and 0

12. For a portfolio of  $N$ -stocks, the correlation matrix contains \_\_\_\_ elements:

- A.  $N$
- B.  $N^*N$
- C.  $N*(N-1)$
- D.  $N*(N-1)/2$
- E. None of the above

13. Beta is a measure of:

- A. Unsystematic risk
- B. Market risk
- C. Both A and B
- D. Liquidity risk
- E. Degree of risk-aversion

14. In addition to bearing risk, insurance companies also bear:  
I) administrative costs; II) moral hazard costs; III) adverse selection costs

- A. I only
- B. II only
- C. III only
- D. I, II and III
- E. None of the above

15. A risk manager should address which of the following considerations?

- I) The firm needs to understand the major risks and consequences that the company faces.
- II) The firm needs to determine if it is being paid for any particular risk.
- III) The firm should simply view risks as external factors beyond the firm's control.
- IV) The firm should know how to control a particular risk.

- A. I only
- B. I and II only
- C. I, II, and IV only
- D. III only
- E. I, II, III, and IV

16. The ultimate financial goal of a corporation is to:

- A. minimize shareholder's risk
- B. maximize profits
- C. maximize share price
- D. increase the size of the firm
- E. All of the above

17. Which of the following groups are referred to as stakeholders?  
I) employees; II) customers; III) shareholders; IV) suppliers

- A. I, II, and IV only
- B. III only
- C. I and II only
- D. I, II, III, and IV
- E. II and IV only

18. Which of the following is not a common function of the firm's chief financial officer?

- A. hiring the firm's CEO
- B. hiring the firm's controller
- C. making capital investment decisions
- D. discussing earnings with investors
- E. Both A and B

19. Which of the following statements regarding agency problems and costs are correct?

- I. An agency problem exists when there is a conflict of interest between the stockholders and the management of a firm.
- II. An agency problem exists when there is a conflict of interest between a principal and an agent.
- III. An agency cost occurs when firm management avoids risky projects that would favorably affect the stock price because the managers are worried about keeping their jobs.
- IV. An agency cost occurs when management chooses an action that benefits the shareholders but reduces management compensation.

- A. I and II only
- B. II and III only
- C. I, III, and IV only
- D. I, II, and III only
- E. II, III, and IV only

20. Which of the following are not examples of agency costs?

- A. the cost of management incentives designed to induce managers to act in the shareholders' interests
- B. bonding expenditures to protect shareholders from managerial fraud
- C. litigation expenses arising from the introduction of poorly designed and produced products
- D. expenditures to monitor management's action and performance
- E. None of the above

21. The government in a developed country will be *most likely* be able to address \_\_\_\_\_ by providing universal health insurance coverage and charging uniform premiums.

- A. expected utility
- B. asymmetric information
- C. moral hazard
- D. adverse selection
- E. None of the above

22. Bartlett Company's target capital structure is 40% debt, 15% preferred, and 45% common equity. The after-tax cost of debt is 6.00%, the cost of preferred is 7.50%, and the cost of common using reinvested earnings is 12.75%. The firm will not be issuing any new stock. You were hired as a consultant to help determine their cost of capital. What is its WACC?

- a. 8.98%
- b. 9.26%
- c. 9.54%
- d. 9.83%
- e. 10.12%

23. An individual has \$60,000 income this year and \$40,000 next year. The market interest rate is 10% per year. Suppose she consumes \$80,000 this year. What will be her consumption next year?

- A. \$18,000
- B. \$30,000
- C. \$20,000

- D. \$40,000
- E. None of the above

24. A firm will start paying dividends four years from now and thereafter that will be expected to grow 5% into perpetuity. Expected dividend in year 4 is Rs 5. If an investor's required rate of return is 7%, the intrinsic value of the stock is closest to:

- A. Rs 204
- B. Rs 200
- C. Rs 197
- D. Rs 227
- E. None of the above

25. Assuming the correlation between an asset and market is 0.67 and the asset and market have standard deviations of 0.34 and 0.19 respectively, the market beta would be closest to:

- A. 0.09
- B. 1.2
- C. 1.0
- D. 0.9
- E. None of the above

26. Stock M and Stock N have had the following returns for the past three years: -12%, 10%, 32%; and 15%, 6%, 24%, respectively. The covariance of returns between the two securities is *closest* to.

- A. +99
- B. -99
- C. +250
- D. -250
- E. None of the above

27. Stock X has a standard deviation of return of 10%. Stock Y has a standard deviation of return of 20%. The correlation coefficient between the two stocks is 0.5. If you invest 60% of your funds in stock X and 40% in stock Y, what is the standard deviation of your portfolio?

- A. 10.3%
- B. 21.0%
- C. 14.8%
- D. 12.2%
- E. None of the above

28. The correlation coefficient between stock B and the market portfolio is 0.8. The standard deviation of stock B is 35% and that of the market is 20%. The beta of the stock is *closest* to:

- A. 1.0
- B. 1.4
- C. 0.8
- D. 0.7
- E. 0.46

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