BMAN10552 SAMPLE EXAM

1.5 Hours

THE UNIVERSITY OF MANCHESTER

Fundamentals of Finance

Date ?

Time ?

Answer **ALL** questions in **Section A** and **Section B**
(choose only one answer for each question and use the multiple choice answer sheet)

And answer only **ONE** question in **Section C**
(use the answer book)

Electronic calculators may be used, provided that they cannot store text

Formula sheet attached

Section A (40%)
Answer ALL questions in this section. Choose only ONE answer for each question and use the multiple choice answer sheet. Each question in this section counts for 4 marks.

1. The process of identifying which investment projects a company should undertake is known as
A) Capital Asset Pricing Model
B) Capital budgeting
C) Capital gains
D) Market capitalisation
E) None of the above

2. An annuity with an infinite life, providing continual annual cash flow is known as
A) Financial futures
B) Put option
C) Infinity
D) Perpetuity
E) None of the above

3. The amount of time required for a company to recover its initial investment in a project, as calculated from cash inflows is known as
A) Time to maturity
B) Average collection period
C) Payback period
D) Average payment period
E) None of the above

4. Which of the following ratios measure the speed with which various accounts are converted into sales or cash inflows or outflows?
A) Sharpe ratio
B) Liquidity ratios
C) Activity ratios
D) Profitability ratios
E) None of the above

5. A feature included in corporate bond issues that gives the issuer the opportunity to repurchase bonds at a stated price prior to maturity is known as
A) Call feature
B) Put option
C) Restrictive covenants
D) Conversion feature
E) None of the above

6. The average compound return earned per year over a multi-year period is known as which of the following?
A) Bond yield
B) Geometric average return
C) Arithmetic average return
D) Internal rate of return
E) None of the above

7. A plot of the yields on Treasury notes and bonds relative to maturity is known as which of the following?
A) Security Market Line
B) Zero coupon bonds
C) Yield to maturity
D) Treasury yield curve
E) None of the above

8. A symmetric, bell-shaped frequency distribution that is completely defined by its mean and standard deviation is known as which of the following?
A) Variance
B) Wealth distribution
C) Normal distribution
D) Geometric averages
E) None of the above

9. The relation between expected returns and beta is depicted by which of the following?
A) SML
B) HML
C) AOL
D) IRR
E) None of the above

10. Bonds that are rated below investment grade are known as
A) Foreign bond
B) Junk bond
C) Euro bonds
D) Treasury bond
E) None of the above

Section B (40%)
Answer ALL questions in this section. Choose only ONE answer for each question and use the multiple choice answer sheet. Each question in this section counts for 4 marks.

11. Assume the following information for five projects that last for 1 year:

Projects	Initial outlay (£)	Cash flow at the end of 1 year	Cost of capital (%)
1	367,000	425,000	12
2	254,000	279,000	7.5
3	105,000	125,000	15
4	560,000	610,000	6
5	50,000	56,000	9

Which project has the highest NPV?
A) Project 5
B) Project 4
C) Project 3
D) Project 2
E) Project 1

12. Which project in Question 11 has the highest IRR?
A) Project 5
B) Project 4
C) Project 3
D) Project 2
E) Project 1

13. Assume that the UK short-term government bond yield is 5.12% and the FTSE All Shares Index return is 6.95%.

Stock	A	B	C	D	E
Actual returns (%)	9.56	7.91	7.21	9.41	6.85
CAPM beta	1.15	1.6	0.75	2.45	0.75

Which of the following choice is correct?
A) Stocks A and C have actual returns that are equal to their expected returns
B) Stocks C and E have actual returns below their expected returns
C) Stocks B and D have actual returns below their expected returns
D) All five stocks have actual returns that are equal to their expected returns
E) None of the above

14. The annual returns of three stocks over a 5-year period are given below:

Year	Stock X	Stock Y	Stock Z
2001	7%	6%	-4%
2002	-2%	-7%	15%
2003	14%	16%	-10%
2004	-4%	-2%	24%
2005	6%	8%	-2%

The weights of Stocks X, Y, and Z in three portfolios are given below:

Portfolios	XY	YZ	XZ	XYZ
Stock X	0.7		0.7	0.6
Stock Y	0.3	0.6		0.2
Stock Z		0.4	0.3	0.2

Which portfolio has highest average return over the 5-year period?
A) XYZ
B) XZ
C) YZ
D) XY
E) All four portfolios are equal

15. Which portfolio has the highest return volatility over the 5-year period in Question 14?
A) XYZ
B) XZ
C) YZ
D) XY
E) All four portfolios are equal

16. Assuming that the UK short-term government bond yield is 4%, which portfolio has the highest excess return (average return minus risk free rate) per unit of total risk (standard deviation) over the 5-year period in Question 14?
A) XYZ
B) XZ
C) YZ
D) XY
E) All four portfolios are equal

17. If Portfolio XYZ in Question 14 is adjusted so that it has equal weights in all three stocks over the 5-year period, which of the following choice is correct?
A) The average return will be higher than the original Portfolio XYZ
B) The average return will be lower than the original Portfolio XYZ
C) The average return stays unchanged from the original Portfolio XYZ
D) The return volatility will be higher than the original Portfolio XYZ
E) None of the above

18. Over the next 5 years, the dividend of a company is expected to grow 15% per year. After that, the dividend growth of this company will decline to 4%. The company's last paid dividend is 20p per share and the current stock price is 450p per share. If the required return is assumed to be at a constant of 10%, what is the present value of the price of the stock at the end of the initial growth period?
A) 432.95p
B) 445.74p
C) 450.62p
D) 421.45p
E) None of the above

19. What is the intrinsic value of the stock in Question 18?
A) 520.91
B) 547.44
C) 565.21
D) 581.76
E) None of the above

20. Given the stock in Question 18, if we now assume that the required return is 10% over the next 5 years but will increase to 12% afterward, what is the intrinsic value of the stock?
A) 439.20
B) 446.52
C) 451.36
E) 461.51
E) none of the above

Section C (20%)
Answer only ONE question from this section. Use the answer book. Each question in this section counts for 20 marks.

21. Discuss what you know about the concept of behavioural finance.

22. Discuss what you know about the CAPM and the concept of stock market efficiency.

----------END OF EXAMINATION----------

BMAN10552 Fundamentals of Finance
Formula sheet

1. Future value: $FV = PV(1+r)^t$
2. Present value: $PV = \frac{FV}{(1+r)^t}$
3. Annuity: $PV = \frac{C\left[1-\frac{1}{(1+r)^n}\right]}{r}$
4. Perpetuity $PV = \frac{C}{r}$
5. Effective rate formula: $EAR = \left[1+\frac{r}{m}\right]^m - 1$
6. Net present value: NPV = –Initial outlay + $\sum_{t=1}^{n} \frac{CF_t}{(1+r)^t}$
7. Internal rate of return: 0 = –Initial outlay + $\sum_{t=1}^{n} \frac{CF_t}{(1+IRR)^t}$
8. Bond valuation: $V_0 = \sum_{t=1}^{n} \frac{coupon_t}{(1+r)^t} + \frac{principal}{(1+r)^n}$
9. Yield to maturity $V_0 = \sum_{t=1}^{n} \frac{coupon_t}{(1+YTM)^t} + \frac{principal}{(1+YTM)^n}$
10. Quadratic equation: $ax^2 + bx + c = 0 \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
11. Dividend growth model: $P_0 = \frac{D_1}{(r-g)} \quad D_1 = D_0(1+g)$
12. Two period growth model: $P_0 = \sum_{t=1}^{n} \frac{D_0(1+g_1)^t}{(1+r_1)^t} + \frac{\frac{D_0(1+g_1)^n(1+g_2)}{(r_2-g_2)}}{(1+r_1)^n}$
13. Stock return: $R_t = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}}$
14. Variance: $\sigma_i^2 = \frac{\sum_{s=1}^{n}[R_{i,s} - E(R_i)]^2}{(n-1)}$
15. Standard deviation: $\sigma_i = \sqrt{\sigma_i^2}$
16. CAPM: $E(R_i) = R_f + \beta(E(R_m) - R_f)$