UNIVERSITI KUALA LUMPUR
BUSINESS SCHOOL

FINAL EXAMINATION
MARCH 2025 SEMESTER

COURSE CODE	:	**EGB20703**
COURSE NAME	:	**FINANCIAL ECONOMICS 1**
PROGRAMME NAME	:	**BACHELOR OF SCIENCE (HONOURS) IN ANALYTICAL ECONOMICS**
DATE	:	**30 JUNE 2025**
TIME	:	**9.00 AM – 12.00 PM**
DURATION	:	**3 HOURS**

INSTRUCTIONS TO CANDIDATES

1. **Please CAREFULLY read the instructions given in the question paper.**
2. **This question paper has information printed on both sides of the paper.**
3. This question paper consists of **SEVEN (7) Questions.**
4. Answer **ALL** questions.
5. Please write your answers on the answer booklet provided.
6. All questions must be answered in **English** (any other language is not allowed).
7. **This question paper must not be removed from the examination hall.**
8. Present and future values tables and formulas have been appended for your reference.

THERE ARE THREE (3) PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

INSTRUCTION: Answer ALL questions.

Please use the answer booklet provided.

Question 1

(a) Explain the importance of studying financial markets.

(5 marks)

(b) Define financial markets and list three (3) functions of the financial markets.

(5 marks)

Question 2

(a) Explain why we should study banking and financial institutions.

(5 marks)

(b) Differentiate how the primary market and the secondary market affect the economy.

(10 marks)

Question 3

(a) Explain direct and indirect finance.

(5 marks)

(b) Differentiate between brokers and dealers.

(5 marks)

Question 4

(a) Discuss what are debt instruments and explain four (4) types of debt instruments that are available in the market.

(10 marks)

(b) Discuss the role of the secondary market which affects financial assets.

(5 marks)

Question 5

(a) Suzy is considering investing in new equipment. The total cost of this equipment is $45,000 and it will have a five-year life. The estimated cash flows are shown in Table 1.

Table 1: Cash Flows for New Equipment

Year	$
1	8000
2	9000
3	12000
4	9500
5	9000

The firm currently has a return of 12%. Calculate the Net Present Value (NPV) of the investment and determine whether Suzy should consider this investment.

(10 marks)

(b) Calculate the present value for $1000 two years from now when the effective annual interest rate is 10%.

(5 marks)

Question 6

(a) An analyst is analyzing the impact of changes in interest rates introduced by the Central Bank on the country's inflation rate. He analyzes historical data for five years. The covariance between the interest rate and the inflation rate is -0.00075, while the standard deviation of the interest rate is 5.5%, and the inflation rate is 12%. Calculate and interpret the correlation between interest rate and inflation rate.

(7 marks)

(b) A mutual fund company offers a safe money market fund whose current rate is 4.5%. The same company also offers a safe money market fund whose current rate is 4.5%. The same company also offers an equity fund with an aggressive growth objective which historically has exhibited an expected return of 20% and a standard deviation of 25%. Determine the allocation that should be placed in the money market fund if an investor desires an expected return of 15%.

(5 marks)

Question 7

(a) An analyst anticipates the following returns from an asset. The data is shown in Table 2.

Table 2: Return for an Asset

Return	Probability
5%	65%
7%	25%
8%	10%

Calculate the expected value of the investment and the standard deviation.

(10 marks)

(b) Suppose the following represents the historical returns for Microsoft.

Table 3: Historical Returns for Microsoft

Year	1	2	3	4	5
Historical Returns	10%	15%	-12%	20%	7%

(i) Determine the return for Microsoft.

(5 marks)

(ii) Find the standard deviation of returns for Microsoft.

(5 marks)

(c) Explain what would happen to the expected return on stocks if investors perceived higher volatility in the equity market.

(3 marks)

END OF EXAMINATION PAPER

FORMULA

Future Value

$$FV = PV\ (1+i)^n$$

Effective Annual Rate

$$EFF(APR, m) = \left(1+\frac{APR}{m}\right)^m - 1$$

- Where;

APR = annual percentage rate

m = the number of compounding periods per year

Present Value

$$PV_{FV}(FV, i, n) = \frac{FV}{(1+i)^n}$$

Utility Function

$$U = E(r) - \frac{1}{2}A\sigma^2$$

Where;

U = utility

E (r) = expected return on the asset or portfolio

A = coefficient of risk aversion

s^2 = variance of returns

½ = a scaling factor

Expected Return of the complete portfolio

$$E(r_c) = r_f + y\left[E(r_P) - r_f\right]$$

Variance

$$\sigma_C^2 = y^2\sigma_P^2$$

Slope/Sharpe ratio

$$Slope = \frac{E(r_P) - r_f}{\sigma_P}$$

Two-Security Portfolio Return

$$E(r_p) = w_D E(r_D) + w_E E(r_E)$$

Two-Security Portfolio: Risk

$$\sigma_p^2 = w_D^2\sigma_D^2 + w_E^2\sigma_E^2 + 2w_D w_E Cov(r_D, r_E$$

Single Factor Model

$$r_i = E(r_i) + \beta_i m + e_i$$

Single Index Model Regression Equation

$$R_i(t) = \alpha_i + \beta_i R_M(t) + e_i(t)$$

Expected Return Beta Relationship

$$E(R_i) = \alpha_i + \beta_i E(R_M)$$

Variance Single-Index Model

$$\sigma_i^2 = \beta_i^2\sigma_M^2 + \sigma^2(e_i)$$

Covariance Single-Index Model

$$Cov(r_i, r_j) = \beta_i\beta_j\sigma_M^2$$

Portfolio Variance

$$\sigma_P^2 = \beta_P^2\sigma_M^P + \sigma^2(e_P)$$

Portfolio sensitivity

$$\beta_P = \frac{1}{n}\sum_{i=1}^{n}\beta_i$$

Market Risk Premium

$$E(R_M) = \bar{A}\sigma_M^2$$

Where

$\bar{A}$ = investors risk aversion

σ_M^2 = variance of the market portfolio

CAPM

$$E(r_M) = r_f + \beta_M\left[E(r_M) - r_f\right]$$

Multifactor Model Equation

$$r_i = E(r_i) + \beta_{iGDP} GDP + \beta_{iIR} IR + e_i$$

Multifactor SML Models

$$E(r_i) = r_f + \beta_{iGDP} RP_{GDP} + \beta_{iIR} RP_{IR}$$

Bond Pricing

$$P_B = \sum_{t=1}^{T} \frac{C_t}{(1+r)^t} + \frac{ParValue}{(1+r)^T}$$

P_B= Price of the bond
C_t = interest or coupon payments
T = number of periods to maturity
r = semi-annual discount rate or the semi-annual yield to maturity

Yield to Maturity

Yield to Maturity (YTM) = [Annual Coupon + (FV – PV) ÷ Number of Compounding Periods)] ÷ [(FV + PV) ÷ 2]

Holding Period Return

$$Holding\ Period\ Return = \frac{Income + (End\ Of\ Period\ Value - Initial\ Value)}{Initial\ Value}$$