(b) A 1-month European put option on a non-dividend paying stock is currently selling for \$2.00. The stock price is \$48, the strike price is \$50 and the risk-free interest rate is 5% per annum. What opportunities are there for an arbitrageur?

(c) Suppose that the 2-year interest rates in Australia and the United States are 5% and 7% respectively. The spot and forward exchange rates between Australian Dollar (AUD) and US Dollar (USD) is 0.6200 USD per AUD. How much profit can an arbitrageur generate?

2+4+4=10

★★★

BACHELOR OF ARTS EXAMINATION, 2025

(3rd Year, 1st Semester)

ECONOMICS

PAPER : EX/UG/ECO/DSE 5.2/1/2025

(Financial Economics)

Time : 2 *Hours* *Full Marks* : 30

Answer Question number **1** and *any* **two** from the rest :

1. Justify the following statements (*any* **4**) : 2.5×4=10

(a) The value of a forward contract on maturity is zero.

(b) A Top Straddle is a risk free strategy.

(c) When a speculator uses futures, the potential loss as well as the potential gain is very large.

(d) Sellers of put options and buyers of call options have identical pay offs.

(e) The value of the call option increases as the probability of an upward movement in the stock price increases.

2. *(a)* Diversification works only when asset returns are uncorrelated. Do you agree?

(b) You have decided to invest all your wealth in two mutual funds : *A* and *B*. Their returns and risks are as follows : The mean returns are $\bar{r}_A = 15\%$ and $\bar{r}_B = 11\%$. The covariance matrix is

	r_A	r_B
r_A	0.04	0.025
r_B	0.025	0.032

You want your total portfolio to yield a return of 12%. What proportions of your wealth should you invest in *A* and *B*? What is the standard deviation of the return on your portfolio?

(c) What is the difference between capital market line and security market line? 2+5+3=10

3. *(a)* The expected return on an investment with a beta of 2.0 is twice as high as the expected return on the market.

(b) The risk-free rate is 5%, the expected return on the market portfolio is 14% and the standard deviation of the return on the market portfolio is 25%. Consider a portfolio with expected return of 16% and assume that it is on the efficient frontier. What is the beta of this portfolio? What is the standard deviation of its return? What is its correlation with the market return?

(c) Show that dividend and share repurchase have no effect on firm value. 2+4+4=10

4. *(a)* How is the report form of financial statement of a company different from an account form of reporting?

(b) The following information is available about Don Company.

Accounts payable	$10 million
Accounts receivable	$5.48 million
Average inventory	$30 million
Buildings and land	?
Cash	$5 million
Cost of goods sold	$80 million
EBIT	$18 million
Long-term bonds	$25 million with 10% coupon
Price per share	$72 million
Price/Earnings ratio	18
Stockholders equity	?
Total assets	$100 million
Total sales	$125 million

Calculate the following : Debt ratio, Inventory turnover ratio and Earnings per share.

(c) What are the potential risks of a bond? 2+6+2=10

5. *(a)* What is the difference between creating a bear spread with put options and the same with call options?