International Islamic University Chittagong

Department of Economics & Banking

Semester End Examination, Autumn 2024 **Program:** BSS in Economics & Banking

Course Code: BNKG-4707 **Course Title:** Financial Investment & Security Analysis

Time: **2.5 hours** Full Marks: :

[Answer all of the following questions. Figures in the right margin indicate full marks.]

QN	Description of Questions	Marks	CLOs & PLOs	Cognitive learning

1(a). Kaufan Enterprises has bonds outstanding with a Tk. 1000 face value and 10 years left until maturity. The bonds have an 11 percent annual coupon payment. The current price of these bonds is Tk. 1175. The bonds may be called in 5 years at 109 percent of face value. — 10 — **CLO4& PLO3** — Evaluatir

i) What is the yield to maturity of these bonds?
ii) What is the yield to call for these bonds, if called in 5 years?
iii) Which yield might investors expect to earn on these bonds and why?
iv) Calculate the bond duration.

Or

(a). How can Mr. Robert, with a \$40 million portfolio investment in the NYSE market and a beta of 0.65, hedge his portfolio risk using stock index futures? Given that the futures price is \$2,500, the stock market index is 1,200 with a multiplier of 300, and the current futures contract price is \$2,800, what position should he take to minimize his risk? Additionally, how would his gain or loss be calculated if the 3-month future index rises to 1,250? — 10

2. Prime Finance First Mutual Fund is appointed you as a portfolio manager. The company plans to assess risk and return of a portfolio that consists of six securities. — 10 — **CLO3 & PLO5** — Evaluatir

Security	Weighting	α_i	β_i	Residual Variance
ACI Ltd.	0.20	-0.16	0.86	67
BBS Cables PLC	0.10	0.47	0.97	86
Bangas Ltd.	0.25	1.55	0.91	52
City Bank PLC	0.15	-0.28	1.07	23
Aman Feed Ltd.	0.20	2.52	1.17	82
Advent Pharma Ltd.	0.10	0.76	0.87	98

3. PHP First Mutual Fund plans to create a portfolio with eight securities which have equal weight. Before making investment the management is to assess whether the securities are underpriced or overpriced. — 10 — Evaluatir

Security	Realized Return	Market Risk	Total Risk
Apex Tannery Ltd.	14	2.20	60
Alif Industries Ltd.	20	2.80	80
BSRM Steels Ltd.	30	1.80	90
Crown Cement PLC	32	1.35	80
Agni Systems Ltd.	20	0.80	70
ADN Telecom Ltd.	25	1.60	50
BDCOM Online Ltd.	15	2.30	35
Bangladesh Autocars Ltd.	18	0.70	45
Market Return	18	1.00	30
Treasury Bill	8.5	0.00	0.00

4(a). How would you create a bar chart to illustrate the movement of market prices using hypothetical data to provide Mr. Ismail, a new investor in the securities — 5 — **CLO5 &** — Analyzir market, with insights into market trends? PLO5

(b) How would you use price charts to assess the market movements of the Dhaka Stock Exchange based on hypothetical data, as part of your investigation for the Bangladesh Securities Exchange Commission? 5 Analyzi

5(a). First Janata Bank Mutual Fund is intended to construct a new portfolio for upcoming year. The management has decided to construct the portfolio by following three securities. The variance-covariance matrix for three securities is given below: 10 CLO5 & PLO5 Evaluati

Security	A	B	C
A	209	-86	99
B	-101	345	237
C	99	150	-280

Calculate the standard deviation of a portfolio constructed with these three securities, the proportion of investment in each being A(0.40), B(0.30), C(0.30).

Or

(b) How would you calculate the price of an American call option if the stock price is \$30, the exercise price is \$35, the time to maturity is 6 months, the annual volatility is 30%, and the risk-free interest rate is 6% per annum? Additionally, how would the announced but unpaid dividend of \$1.50 impact the option price? 10