Strathmore
UNIVERSITY

STRATHMORE INSTITUTE OF MATHEMATICAL SCIENCES

BBS Actuarial Science

END OF SEMESTER EXAMINATION

BSA 3208 Actuarial Asset Management

DATE: 16th November **TIME: 2 Hours**

INSTRUCTIONS

1) **Answer question one and any other two questions**
2) **Question one is compulsory and carries 30 marks**
3) **All other questions carry 20 marks each**

Question 1

A.

(i) Describe the economic functions of financial intermediaries.

(10)

(ii) Discuss the essential differences between the intermediation functions of retail banks and those of insurance companies and pension funds.

(5)

B.

Explain how futures markets have evolved mechanisms to remove problems caused by possible information asymmetries with respect to the credit quality of the different parties to a contract, without the use of statutory regulation.

.

[5]

C.

(i) Describe the main uses of derivatives.

[7]

(ii) An investment manager of a pension fund holds a portfolio of equities to meet future pension liabilities. The trustees have given guidance that they wish the portfolio to be 100% invested in equities which the investment manager has followed. The fund manager sells equity futures with a value equal to 15% of the total value of the portfolio. Describe the main risk to the investment manager.

[3]

[10]

[Total 30]

Question 2

A.

(i) Describe why regulation may be desired to overcome the problem of information asymmetries in investment markets.

(5)

(ii) Describe the regulatory mechanisms (both private and statutory) that can be used to overcome information asymmetries.

(5)

B.

'Banks and insurance companies perform intrinsically different economic functions.'

Critically discuss this statement.

(10)

[Total 20]

Question 3

A.

(i) Describe the factors that would affect the value of an indexed future.

(5)

(ii) Describe how margin accounts operate in futures markets.

(5)

B.

Discuss the reasons why a government might choose to regulate financial markets and financial institutions.

(10)

[Total 20]

Question 4

A.

In a particular country, an agency, independent of the central bank, is responsible for the management of the national debt. The agency is accountable to the Treasury (Ministry of Finance) of the country concerned.

(i) Discuss, with reasons, the objectives that such an agency could be given.

(5)

(ii) Discuss how the agency could develop a portfolio of bonds with different characteristics to help it meet these objectives.

(8)

B.

Discuss the intermediation functions of a defined contribution pension fund.

(7)

[Total 20]

Question 5

(i) Discuss the economic factors that affect long-term government bond yields in an economy that is open to capital flows.

(10)

(ii) A central bank decides to loosen its monetary policy stance. Describe how the effects of this policy change would be transmitted through the economy. In your answer, distinguish between the effects of "quantitative easing" (the loosening of monetary policy by central bank purchases of securities) and the effects of a reduction in short-term interest rates.

(10)

[Total 20]