NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF COMMERCE
DEPARTMENT OF INSURANCE AND ACTUARIAL SCIENCE
B.COMM (HONS) DEGREE IN RISK MANAGEMENT AND INSURANCE
<u>PROPERTY AND LIABILITY INSURANCE [CIN 2205]</u>
SECOND SEMESTER FINAL EXAMINATION– AUGUST 2009

Duration **3 hours**
<u>Instructions to Candidates</u>

Answer any **FIVE** out of the seven questions, below. (Each question carries 20 marks)

Q1. Discuss the major differences between property insurance and a surety bond.
(20 marks)

Q2. Discuss the different methods of estimating provisions for outstanding claims.
(20marks)

Q3.Discuss the factors that are taken into account when underwriting a domestic insurance cover. (20 marks)

Q4. The basic, minimum and maximum premiums for the underwriting department of a certain insurance company are \$6 000, \$15 000 and \$30 000 respectively. The tax multiplier is 1.04 and the loss conversion factor is 1.12 If losses for a particular insured are \$20 000 during the policy period
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(a) Calculate;
(i) The retrospective premium,
(ii) The loss at the minimum premium level,
(iii)The value of losses that would cause the insured to pay the maximum premium,

(b) Draw a graph of the retrospective premium as a function of the losses, to reflect the information processed in (a).
(20 marks)

Q5. (a) Explain the reasons why underwriters select certain kinds of insurance.
(b) Explain the term "adverse selection" and suggest how an underwriter may minimize this, with examples in motor insurance.
(c) Underwriting investigations may not reveal moral and morale hazards. Discuss.
(20 marks)

Q6 Describe factors which are taken into consideration when underwriting a householder's policy.
For each factor explain the variables that could raise or lower the premium.
(20 marks)

Q7. Cover Insurance Limited has projected that motor vehicle accident damage claims for the ensuing year, starting in January 2010, will be $150 000 per month, constantly. A premium of $1 800 000 is payable at inception and claims would be settled three months in arrears.

Assuming a cost of capital of 36% per annum;

(a) Draw up a cash flow schedule to show the net present value (NPV) of the claims for the year, and comment on this amount, from the insurer's perspective.

(b) If Cover Insurance Limited were to invest the $1 800 000 at the beginning of January and interest is earned monthly on the balance at the end of each month, calculate interest earned for a year and the net present value of that interest amount.
Comment on the two amounts.

(20 marks)

FORMULAE: $\text{PVIF} = (1+i)^{-n}$

$$\text{PVIFA} = \frac{(1+i)^n - 1}{i(1+i)^n}$$

$$\text{FVIF} = (1+i)^n$$

$$\text{FVIFA} = \frac{(1+i)^n - 1}{i}$$

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