SPECIALISED DIPLOMA EXAMINATION
(CASUALTY ACTUARIAL SCIENCE NON-LIFE)
BASIC RATEMAKING

[Time : 3 Hours]

[Total Marks:100]

Answer EIGHT questions only. Question number TEN is compulsory which carries 16 marks
Any SEVEN questions from Q.No.1 to Q.No.9 which carries 12 marks each.

Q.1 Answer any three:
   a) Give the four different definitions of premium.
   b) What is the ‘loss ratio method’?
   c) Discuss the fundamental insurance equation.
   d) To solve a GLM, what are the requirements of the modeler?

Marks

4 each

Q.2 Answer any three:
   a) List three objectives that should be kept in mind when aggregating data for ratemaking.
   b) Define Exposure. What are the three criteria that a good exposure base should meet?
   c) What are the different sources of data used in the process of Ratemaking?
   d) What are the main advantages and disadvantages of the classical credibility approach?

Marks

4 each

Q.3. Answer any three:
   a) Distinguish between calendar year Vs policy year exposure aggregation.
   b) Write a short note on:
      i) Coinsurance clause.
      ii) Coinsurance penalty.
   c) Distinguish between Loss Ratio Method & Pure Premium Method.
   d) Distinguish between Univariate and Multivariate approach in Ratemaking.

Marks

4 each

Q.4. Answer the followings :
   a) Define allocated Loss adjustment expense and unallocated
      Loss adjustment expense.
      Classify following expenses into ALAE and ULAE-
      i) Claim Adjuster Fee.
      ii) Claim Department Overhead Expense.
      iii) Legal Defense Cost.
   b) Write a short note on Minimum bias technique used in classification ratemaking and problems encountered while using this approach.

Marks

6 each

Q.5 Answer any two:
   a) Discuss any two sources of external data for an insurer.
   b) What are the various adjustments needed to be made to past losses data?
   c) Explain the terms: Defense cost & containment expense adjusting
      and other expenses.

Marks

6 each
Q.6 Answer any two.
   a) What are the typical underwriting characteristics of the following types of Insurance:
      i) Personal Automobile     ii) Homeowner Insurance
      iii) Workmen Compensation iv) Medical Malpractice
   b) State the difference between claim made coverage and occurrence based coverage. Outline five principles in rating claim made Insurance policies.
   c) Distinguish between Experience rating & Schedule rating.

Q.7. Discuss in detail the four underwriting expenses categories.  

Q.8. Discuss the four categories in which the criteria for evaluating the rating variables can be grouped during the process of classification ratemaking.  

Q.9. a) What is Excess Ratemaking? Briefly describe four methods used to determine the complement of credibility for Excess Ratemaking Analysis.
   b) Discuss the underwriting cycle.  

Q.10. a) The table below shows the numbers of household insurance claims reported in each development year for accident years from 2005 to 2008. Use the basic chain ladder method to estimate the total ultimate number of claims arising from accident occurring between 1st Jan 2005 & 31st Dec 2008.

<table>
<thead>
<tr>
<th>No of claims Reported</th>
<th>Development year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>2005</td>
<td>17,500</td>
</tr>
<tr>
<td>2006</td>
<td>21,000</td>
</tr>
<tr>
<td>2007</td>
<td>18,800</td>
</tr>
<tr>
<td>2008</td>
<td>21,300</td>
</tr>
</tbody>
</table>

b) Explain one step trending & two step trending.  

END