Multiple - Choice Questions (All Multiple-Choice Questions carries Two marks each)

Q.1 Which of the following statement is incorrect?
Some attributes of good Individual rating system are:
   a) They serve the needs of the organisation.
   b) They are easy to understand
   c) They are capable of internal manipulation
   d) The appropriately balance risk sharing and risk bearing.

Q.2 An automobile manufacturer is launching a new product in the market. It is exposed to-
   a) Capital Risk
   b) Business Risk
   c) Investment Risk
   d) Expense Risk

Q.3 Term not associated with Dynamic Financial analysis is-
   a) Game theory
   b) Scenario Testing
   c) Sensitivity estimation
   d) Financial Risk modeling

Q.4 In context of utility theory, which of the below is incorrect?
   a) A Risk averse decision maker would have utility function that increases at progressively faster rate.
   b) A Risk neutral decision maker will have linear utility function.
   c) A Risk seeker decision maker will have positive 2nd derivative.
   d) A Risk averse decision maker will have negative 2nd derivative.

Q.5 Risk control alternative are-
   a) Exposure avoidance
   b) Loss prevention
   c) Scenario Testing
   d) Segregation of exposure
Which of the above, if any, is untrue?

Q.6 Which of the following method, if any, is not applicable for Review of “Increased Limit Experience “
   a) Trending Individual Loss
   b) Fitted size of loss distribution
   c) Loss development by layers
   d) Past experience analysis
Q.7 Which of the following is not a broad goal of the manual rate making process? 2
a) To determine rates that will, when applied to the exposure underlying the risk being written.
b) Provide sufficient funds to pay expected losses & expenses.
c) Maintain an adequate margin for adverse deviation
d) Produce a reasonable return on funds provided by investors.
e) None of the above.

Q.8 Objective risk can be explained as: 2
a) There is a chance of loss as well as gain
b) It is the exposure to possible loss
b) It is the risk that is same for all persons and entities facing the same situation
d) It is the risk that is same for all persons and entities facing different situation.

Q.9 An insurance company decides to retain certain risks to its net account, the company can deal with these as: 2
a) Buy appropriate reinsurance for the retained risks
b) Borrow capital without bothering about the cost
c) Do not take any action as risk probability is not too high
d) None of the above.

Q.10 When calculating the final premium from risk premium, what are the factors to be considered? 2
a) Competitor’s rates
b) Business objectives of the company
c) Price elasticity of customers
d) All of the above.

Q.11 There are 3 criteria that must be met when applying the credibility theory. 2
Which of the following is one of them?
a) \( \frac{dZ}{dE} < 0 \)
b) \( \frac{d}{dE} \left( \frac{Z}{E} \right) < 0 \)
c) \( z \geq 1 \)
d) \( \frac{d}{dE} \left( \frac{Z}{E} \right) > 0 \)

Q.12 Examine the following equations in context of an insurer and state which is incorrect. 2
a) Incurred losses = paid losses + change in outstanding
b) Owners equity = contributed capital + retained earnings
c) Income = change in earnings + dividends
d) Retained earnings = Assets - Liabilities - contributed capital

Q.13 Composite rating can be describe as: 2
a) A tool to enable the rating of large and complex risks upon audit
b) A tool to enable the rating of large number of small risks
c) A tool to obtain a rate based on exposure at the end of policy period
d) None of the above.
Speculative risk can be explained as:
a) There is a chance of loss and a chance of gain
b) There is a chance of loss but no chance of gain
c) There is no chance of loss but a chance of gain
d) None of the above.

For a policy, variable expense factor is 15% and profit factor is 5%. The average loss per unit of exposure is 80 units and fixed expenses per unit of exposures is 20 units. The rate for this policy per unit of exposure is:
a) 95 Units
b) 125 Units
c) 115 Units
d) 110 Units

(Essay type questions: All essay type question carries Ten marks each.)

Write a short note on:
a) Actuarial criteria for selecting a rating variable.
b) Reserve discounting and reserve estimate ranges.

Write a note on dynamic financial analysis.
b) Distinguish between static analysis and dynamic analysis.

Discuss four phases of Reserve Estimation Strategy.

Define the term liability explaining the essential characteristics an obligation has to satisfy for being considering a liability.
b) What tests are required to determine if a contingent liability should be recognised in the balance sheet

Write short notes on following accounting concepts:
a) Balance Sheet
b) Income Statement
c) Accrual accounting

Estimate the ultimate loss ratio in each year by using the chain ladder method. The loss ratio triangle is as below and the premium received in each year is also given.

<table>
<thead>
<tr>
<th>Accident Year</th>
<th>Development Year 0</th>
<th>Development Year 1</th>
<th>Development Year 2</th>
<th>Development Year 3</th>
<th>Received Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>47%</td>
<td>63%</td>
<td>70%</td>
<td>74%</td>
<td>£ 1.42 m</td>
</tr>
<tr>
<td>2006</td>
<td>48%</td>
<td>62%</td>
<td>71%</td>
<td></td>
<td>£ 1.64 m</td>
</tr>
<tr>
<td>2007</td>
<td>49%</td>
<td>60%</td>
<td></td>
<td></td>
<td>£ 1.73 m</td>
</tr>
<tr>
<td>2008</td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
<td>£ 1.82 m</td>
</tr>
</tbody>
</table>

You may use average ratios as your selection and year 2005 is fully developed.

Classify rating variables in Automobile Insurance into broad categories. Briefly explain how these factors contribute to cost variation / differences?