Multiple-Choice Question (All Multiple-Choice Questions carries Two Marks Each)

Q.1 _______ cover may be used to protect a cedant’s net loss ratio.
   a) Aggregate Excess
   b) Excess of Loss
   c) Surplus
   d) Quota Share

Q.2 Which of the following financial statements provides a snapshot of a company’s financial position on a specified date?
   a) Income Statement.
   b) Cashflow Statement
   c) Balance Sheet
   d) Letter to the Shareholders

Q.3 In order to cede reinsurance, the cedant may be required to assume reinsurance from the reinsurer. What type of reinsurance does the ceding company take in this situation?
   a) Quota Share Reinsurance
   b) Surplus Reinsurance
   c) Facultative Reinsurance
   d) Reciprocal Reinsurance

Q.4 Which of the following is incorrect:
   a) Return on equity = Net income divided by equity
   b) Leverage ratio = debt divided by equity
   c) Tabin’s Q = stock price divided by book value per share
   d) Asset turnover = annual sales divided by assets

Q.5 A full credibility standard of 1200 expected claims has been established for aggregate claim costs. If the coefficient of variation of the claim size distribution were changed from 2 to 4 and the range parameter (K) were doubled, what is the no. of expected claims that would be required for full credibility.
   a) 1200
   b) 1150
   c) 1020
d) 1500

Q.6 Sliding Scale Commission means 2
a) The commission always slides to 0  
b) Commission can be changed by cedant  
c) Commission increase at a fixed rate  
d) Commission varies with the loss ratio  

Q.7 Which is not form of finite reinsurance: 2
a) Working over excess treaty  
b) Loss portfolio transfer  
c) Financial proportional cover  
d) Funded aggregate excess cover  

Q.8 Which of the following methods is not included in the benchmark method for estimating environmental losses? 2
a) Aggregate loss development method  
b) Claim development method  
c) Market share method  
d) Survival loss ratio method  

Q.9 Which of the following is an example of a retrospective cover? 2
a) Catastrophe Bonds  
b) Loss Portfolio Transfer  
c) Funded Aggregate Excess Cover  
d) Financial Proportional Cover.  

Q.10 The price of a Property Catastrophe Treaty depends on 2
a) Attachment point.  
b) Cedant’s accumulation of property exposure in localities prone to natural catastrophes  
c) Cedant’s net position on each policy after all other reinsurance.  
d) All of the above  

Q.11 Consider a 3 year bond of Rs. 1000 Face Value. Coupon rate is 6%. Consider yield to Maturity of 7%. Calculate Macaulay Duration for this bond. 2
a) 2.83 Years  
b) 3.00 Years  
c) 2.50 Years  
d) 2.68 Years  

Q.12 The frequency distribution follows the Poisson process with mean 0.5. The second moment about the origin for the severity distribution is 1000. What is the process variance of the aggregate claim amount?
Q.13 Assume that random variable $X$ is distributed according to Negative Binomial with Parameter $k=2$ & $p=0.6$.
What is the probability that the observed value of $X$ is greater than 2?
  a) 0.0133
  b) 0.1792
  c) 0.1590
  d) 0.1480

Q.14 Which of the following is incorrect?
  a) Fidelity Excess is a medium tailed line of business.
  b) Treaty Casualty is a long tailed line of business.
  c) Ocean Marine is a long tailed line of business.
  d) Facultative proportional is a short tailed line of business.

Q.15 Assume that the numbers of students taking exam by exam centre are as follows:
Mumbai 3500, Delhi 2000, Bangalore 4500. The number of students from each centre passing the exam are; Mumbai 2625, Delhi 1200, Bangalore 3060.
What is the overall passing percentage?
  a) 65%
  b) 60%
  c) 68.85%
  d) 71.12%

(Essay type questions: All essay type questions carry Ten marks each)

Q.16 A die is selected at random from an urn that contains four 6 – sided dice with the following Characteristics:

<table>
<thead>
<tr>
<th>Number on Face</th>
<th>Die A</th>
<th>Die B</th>
<th>Die C</th>
<th>Die D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
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<td>1</td>
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<tr>
<td>3</td>
<td>1</td>
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</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

The first five rolls of the selected die yielded the following in sequential order: 2,3,1,2 and 4.
Using Biilhman Credibility, what is the expected value of the next roll of the same die?

Q.17 State the Flat Rate Reinsurance Pricing formula. Explain all the terms used.
Calculate reinsurance premium given that:
Present value of expected loss cost = 10, 00, 00,000/-
Reinsurer’s target economic return = 20%
Reinsurer’s Expense loading = 10%
Ceding Commission = 25%
Brokerage = 5%

Q.18 a) Explain Asset Liability Matching. 5
     b) What are the three arguments that are raised against the need for general insurance
        Companies to adopt ALM? 5

Q.19 a) Explain the two forms of regression. 5
     b) Outline the steps involved in business planning process. 5

Q.20 a) State the arguments against using a specific formula for including investment
       income in the determination of an allowable underwriting profit margin. 5
     b) Explain Total Rate of Return Model. 5

Q.21 a) Give reasons for regulation in insurance industry. 4
     b) Explain DFA modeling, outlining its various variables. 6

Q.22 Write a Short Note on:
    a) Clash treaty 3
    b) Catastrophe bonds 3
    c) IBNR and its components 4

END