

EXAM 6 – CANADA, FALL 2019

24. (1.25 points)

The following information is available for a property and casualty insurance company as at December 31, 2018. All amounts are in thousands of dollars (\$000s).

Capital Available	250,000
Capital Required	
Fixed income securities	20,000
Credit	12,500
Potential catastrophe losses	15,000
Equity securities	30,000
Reserves	75,000
Business risk	7,000
Interest rate	10,000
Premiums	65,000

a. (1 point)

Calculate Best's Capital Adequacy Ratio (BCAR).

b. (0.25 point)

Briefly describe why A.M. Best uses a covariance adjustment in the BCAR formula.

CONTINUED ON NEXT PAGE

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 24	
TOTAL POINT VALUE: 1.25	LEARNING OBJECTIVE(S): C2
SAMPLE ANSWERS	
Part a: 1 point	
<p><u>Sample</u> NRC $= 7,000$</p> $+ \sqrt{20,000^2 + 30,000^2 + 10,000^2 + \left(\frac{12,500}{2}\right)^2 + \left(\frac{12,500}{2} + 75,000\right)^2 + 65,000^2 + 15,000^2}$ <p>$= 118,761.46$</p> $BCAR = \frac{AC - NRC}{NRC} * 100 = 52.5$	
Part b: 0.25 point	
<p><u>Sample</u> It shows the statistical independence between different risks and shows it's mostly unlikely that all risks will reach their maximum values at the same time</p>	
EXAMINER'S REPORT	
Candidates were expected to know how to calculate the A.M. Best's BCAR ratio and the meaning of its components.	
Part a	
Candidates were expected to know how to calculate the A.M. Best's BCAR.	
<p>Common mistakes included:</p> <ul style="list-style-type: none"> • Using $0.5 * B_4^2$ instead of $(0.5 * B_4)^2$ • Not multiplying by 100 when calculating BCAR score • Only calculating NRC and forgetting to calculate BCAR 	
Part b	
Candidates were expected to understand the purpose of the covariance adjustment in the BCAR formula.	
<p>A common error included:</p> <ul style="list-style-type: none"> • Stating that the purpose of the covariance adjustment is simply to account for the fact that the risks are not perfectly statistically independent without explaining that statistical independence means that all the risk components are unlikely to develop simultaneously. 	