25. (4 points)

The following information is available for a property and casualty insurance company's MCT as at December 31, 2017. All amounts are in thousands of dollars ($000s).

Minimum Capital Test	2017
Total Capital Available	60,000
Capital Required at Target:	
Insurance Risk	25,000
Market Risk	12,500
Credit Risk	3,500

Premiums Written in the Past 12 Months	Direct	Assumed	Ceded
Personal Property	100,000	5,000	7,500
Automobile – Liability and Personal Accident	205,000	15,000	20,000
Risk Factor	2.5%	1.75%	2.5%

Other information:

- The correlation factor between the asset risk and the insurance risk is 50%.
- The growth in gross premium written in the past 12 months is 25% and the risk factor for premium growth is 2.5%.
- The company does not have intra-group pooling arrangements.
- The risk factors applied to total capital required, before the operational risk margin and diversification credit, for the calculation of the operational risk margin is 8.5%.
- The operational risk cap factor is 30%.

a. (1.75 points)

Calculate the MCT ratio.

b. (0.25 point)

Briefly discuss whether this company would trigger an early warning intervention from OSFI.

c. (2 points)

Briefly discuss four ways in which the Own Risk and Solvency Assessment (ORSA) is a better management tool for the Board of Directors than the MCT.

QUESTION 25	
TOTAL POINT VALUE: 4	**LEARNING OBJECTIVE(S): C2**
SAMPLE ANSWERS	

Part a: 1.75 points

Sample

Operational Risk = Min($30\% \times CR_0$; $8.5\% \times CR_0 + 2.5\% \times P_W + 1.75 \times P_A + 2.5\% \times P_C + 2.5\% P_\Delta$)

= Min(12,300 ; $8.5\% \times (25000+12500+3500) + 2.50\% \times (100000+205000) + 1.75\% \times (5000+15000)$ + $2.50\% \times (7500+20000 + 2.50\% \times$ growth above 20%))

= Min(12,300 ; 12,473)

Diversification Credit = $A + I - (A^2+I^2+2RAI)^{0.5}$

= $25000 + 12500 + 3500 - ((12500+3500)^2 + 25000^2 + (2 \times 0.5 \times (12500+3500)*25000))$^0.5

=5,209

Capital Required = (Insurance Risk + Market Risk + Credit Risk + Operational Risk - Diversification Credit)/1.5

= (25000 + 12500 + 3500 + 12300 - 5209)/1.5

= 32,061

MCT = Capital Available / Capital Required

= 60,000 / 32,061

= 187.1%

Part b: 0.25 point

Sample

The OSFI early intervention trigger is at the supervisory target level of 150%. Because the MCT is greater than 150% there would be no trigger to OSFI.

Part c: 2 points

Sample (any four of the following responses):
- ORSA considers more risks than MCT and includes all risks material and relevant to the company
- ORSA considers dependencies and correlations between risks whereas MCT uses a simplified approach that only considers correlation between insurance and asset risk
- ORSA includes assessment of internal controls to allow for better management of the business
- ORSA allows for the setting of an internal target to reflect an insurer's own risk appetite
- ORSA allows for a better qualitative assessment of risk, whereas MCT is only quantitative
- ORSA is tailored to a company's own risk profile, whereas MCT is a formula-based approach that is not specific to the company
- ORSA is more of a forward-looking measure
- ORSA is used for mitigation/prevention exercise

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT
Candidates were expected to calculate the MCT ratio given all the relevant data items. The focus of the calculation was on the operational risk calculation but understanding how all the various risks tie together was also important. Based on the indicated MCT ratio, candidates were expected to identify whether OSFI's early intervention would be triggered. Finally, candidates needed to be able to describe why the Own Risk and Solvency Assessment (ORSA) is a better management tool for the Board of Directors than the MCT.

Part a
Candidates were expected to calculate the MCT ratio given various inputs and, in particular, understand the operational risk calculation. A common error was: • Failing to account for the minimum qualifier in the operational risk calculation.

Part b
Candidates were expected to identify that OSFI early intervention is triggered when the MCT falls below the supervisory target of 150%. There were no common errors identified. Regardless of the response to part a., candidates were awarded full marks if they correctly identified that intervention would be triggered if the MCT fell below the supervisory target of 150%.

Part c
Candidates were expected to describe ways in which ORSA is a better management tool for the Board of Directors compared to the MCT. The common error was that candidates fail to provide description on how ORSA is a better management tool than MCT.