

26. (2 points)

a. (0.5 point)

Briefly describe the following terms:

- i. Model
- ii. Model risk

b. (1.5 points)

In evaluating model risk exposure, an actuary can assess the severity and likelihood of failure in a model. Identify three considerations for each of the following metrics:

- i. Severity of model failure
- ii. Likelihood of model failure

END OF EXAMINATION

QUESTION 26	
TOTAL POINT VALUE: 2	LEARNING OBJECTIVE(S): D1
SAMPLE ANSWERS	
Part a: 0.5 point	
<u>Sample answers for sub-part i. (one definition required)</u>	
Model:	
<ul style="list-style-type: none"> • A practical representation of relationships among entities or events using financial, economical, mathematical and statistical concepts • A simplification of reality using financial, economical, mathematical and statistical concepts 	
<u>Sample answers for sub-part ii. (one definition required)</u>	
Model risk:	
<ul style="list-style-type: none"> • Risk that due to limitations or flaws in model or in its use, a user draws an inappropriate conclusion from model results • Risk of drawing incorrect conclusion due to limitations or flaw of the underlying model 	
Part b: 1.5 point	
<u>Sample answers for sub-part i. (any three of the following)</u>	
Severity:	
<ul style="list-style-type: none"> • Financial significance of item • Importance of model to the company • Frequency of use of the model • Reputation risks 	
<u>Sample answers for sub-part ii (any three of the following)</u>	
Likelihood:	
<ul style="list-style-type: none"> • Complexity of model • Proper documentation on how to use the model • Testing of the model • If there are qualified staff using the model 	

EXAMINER'S REPORT

Candidates were expected to provide a definition of model and model risk and evaluate model risk exposure.

Part a

Candidates were expected to define a model in terms of the relationship between events or entities.

Common errors for sub-part i. included:

- Describing the relationship as being between the different concepts (statistical, etc.) instead of between the events or entities

Common errors for sub-part ii. included:

- Not stating that the model risk can lead to incorrect conclusions due to the model's limitations
- Not specifying that the inaccurate conclusion is due to the flaw/limitation of the model or that the model might not operate as intended

Part b

Candidates were expected to be able to evaluate model risk exposure.

A common error included:

- Mixing up considerations between severity of model failure and likelihood of model failure