- 9. (1.75 points)
  - a. (0.5 point)

Briefly describe one similarity and one difference between the purposes of risk classification and individual risk rating.

b. (0.5 point)

Briefly describe a situation for each of the following:

- i. A classification rating plan is more appropriate than individual risk rating
- ii. Neither a classification rating plan nor individual risk rating is necessary
- c. (0.75 point)

Briefly describe three reasons a rating characteristic might not be included in a classification rating plan.

#### FALL 2019 EXAM 5 – SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 9	
TOTAL POINT VALUE: 1.75	LEARNING OBJECTIVE(S): A7, A11
SAMPLE ANSWERS	

# Part a: 0.5 point

- Risk classification and individual risk rating both attempt to price the risk using historical data. Risk classification groups risks into categories and assigns relativities based on their experience relative to one another. Individual risk rating uses more of the risk's own historic data to price the risk.
- Similarity: both consider risk characteristics to determine a rate
   Difference: risk classification groups similar risks together to determine the rating whereas individual risk rating looks at each risk separately
- Similarity: both are designed to match the appropriate premium with the expected loss of the insured
  - Difference: risk classifications measure the propensity for loss for groups of insureds with similar characteristics, while individual risk rating is tailored to the individual insured
- Similarity: ratemaking is being done at a more granular level to avoid adverse selection
  Difference: risk classification categorizes you in a homogenized group of individuals with
  similar characteristics vs individual risk rating, where a rate is being produced based on
  your risk characteristics

# Part b: 0.5 point

## Sample Responses for Part i

- When the company is covering all small risks
- Many risks with similar characteristics
- When rating homogeneous groups of risks

## Sample Responses for Part ii

- Rate set by state regulators
- If expected loss costs are the same for every exposure
- There is no competition in the market and all risks are appeared to be equally risky

# Part c: 0.75 point

# Any three of the following:

- Rating characteristic is not statistically significant
- Correlated with other characteristics
- Data is not credible enough
- Difficult to verify
- It may not be objective
- Too expensive to implement
- No historical precedent
- Violates insureds privacy
- No causality relationship with expected loss
- It may not be controllable by the insured
- If the rating variable were to make insurance unaffordable
- Not allowed by law

#### FALL 2019 EXAM 5 – SAMPLE ANSWERS AND EXAMINER'S REPORT

#### **EXAMINER'S REPORT**

Candidates were expected to understand the purposes of both risk classification and individual risk rating, understand the circumstances under which each are appropriate, and know the considerations for selecting a rating characteristic.

#### Part a

Candidates were expected to describe one way that the purposes of risk classification and individual risk rating are similar and one way that they are different.

#### Common mistakes included:

- Identifying the purpose of both risk classification and individual risk rating as rate adequacy overall rather than for an individual or group.
- Identifying the purpose of risk classification as rate development for a group rather than rate differentiation for multiple groups.
- Identifying the purpose of risk classification as grouping similar risks without explaining how those groups are used in risk classification.

# Part b

Candidates were expected to understand when risk classification is more appropriate than individual risk rating and when neither are necessary, and determine a situation under which each scenario would be true.

#### Common mistakes included:

- Identifying the situation as thin data or a new line of business.
- Identifying a product or risk characteristic without explaining how it satisfies the condition of the scenario.

### Part c

Candidates were expected to understand what an actuary should consider when deciding whether to include a rating characteristic and provide three reasons it might not be included in a classification rating plan.

#### Common mistakes included:

- Describing fewer than three reasons.
- Identifying duplicate reasons.
- Identifying a reason a rating characteristic would be more likely to be included in the classification rating plan, such as being affordable to insureds or having a causal relationship to expected losses.