

Name: \_\_\_\_\_

## GGY/GLY 335: GEOMORPHOLOGY

### TAKE-HOME QUIZ: CHAPTERS 11-12

**Instructions:** Complete the following short essay questions based on the two textbook chapters that we will not cover in lecture. Please limit each answer to 1-2 short paragraphs. Each chapter should be less than two pages of double spaced, 12-point type.

#### CH. 11 - PERIGLACIAL PROCESSES AND LANDFORMS

1. How much of the earth is underlain by permafrost? How thick is the permafrost in Arctic areas? Do you think the world's permafrost regions are currently getting thicker or thinner? Why?
2. Describe the formation of an ice wedge. What are some of the conditions necessary for ice wedges to occur? How are ice-wedge polygons different from sorted polygons?
3. Why does permafrost cause so many problems with engineering structures? Describe one way in which engineers deal with the problems of building houses, roads, sewers, or pipelines in the Arctic.

#### CH. 12 - KARST PROCESSES AND LANDFORMS

1. Define the 6 terms of the following equation that describes carbonation, the chemical process responsible for karst formation (attach a name to each of the 6 compounds listed in the equation):



Based on this equation, in what environments do you expect karst landforms to occur?

2. Look at the list of karst features in Table 12-1 (p. 409). Which of these features have you seen in person, or on TV, or in print? Describe something about the setting where you have seen up to four of these features. (No points awarded for this question if you've never seen any of these features!)
3. Briefly explain a few reasons why groundwater flow is so complicated and unpredictable in karst areas.