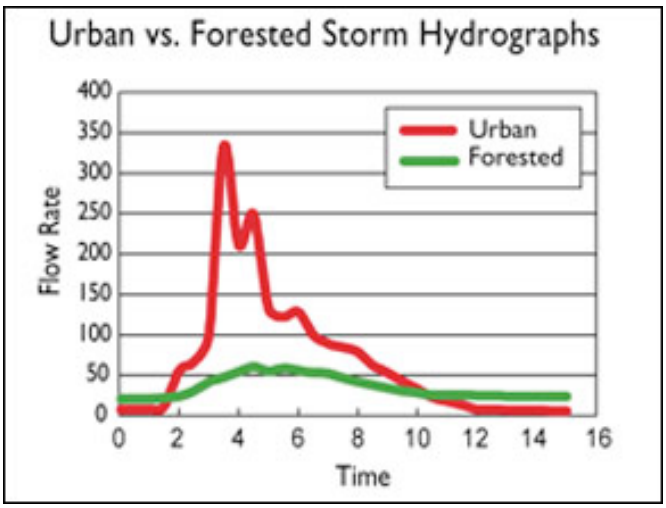
Environmental Geology - Exam II **Name** _____
Spring 2014 *Row #* _____

Answer the *three* (3) of the *four* (4) questions in *Part I*. Note the point value of each question. Make sure you answer all parts of each question.

1 – **Hydrographs.** Draw a storm hydrograph. What determines the shape of this hydrograph (be sure to discuss 5 controls on its shape)? [10 pts.]

Below are two hydrographs – why do they have different shapes and why is the area under each curve different?[10 pts.]



2 – **Drying of the West.** One of the long-term illustrations of the drying of western North America is the ongoing issues of the Colorado River Compact. Describe the background and issues surrounding the Colorado River Compact. How are scientists and legislators trying to better understand and anticipate water supply in the Colorado River Basin [20 pts.]

3– **Streams.** Draw and illustrate a *braided* and a *meandering* stream system. What controls these stream patterns and what are their characteristics? [10 pts.]

What are high capacity streams and why are they so susceptible to flooding? Illustrate your discussion.[5 pts]

How would a former braided river change into a meandering river – what conditions would force it to change its pattern? [5 pts.]

4 – **Soil Loss.** The removal of vegetation from the landscape increases the effectiveness of processes responsible for soil loss. Describe how soil erosion proceeds. [8 pts.]

How does no-till agriculture decrease erosion and soil loss? What are the advantages and disadvantages of this agricultural practice? [12 pts.]

Part 2 - Fully define/describe eight (8) of the following ten (10) terms. Use diagrams and examples to support your definitions. If you answer all ten I will only grade the first eight. [5 pts. each]

1 - Competence

2 – What drives the hydrologic cycle?

3 – Darcy's law

4 –Serial Engineering

5 – Definition of a water table

6 – 100-year flood

7 – The average annual precipitation and latitude of Wooster Ohio and the trend in precipitation (3 things).

8 – Noah' Flood

9 – DNAPL

10 – BTEX

BONUS1: Into which ocean does the Red River end up? [1 pt.]

BONUS2: Approximately how many gallons per day are pumped from the Wooster aquifer each day (within 10%)? [1 pt.]