

# FORM D

GEOGRAPHY 1114  
LABORATORY FINAL EXAM  
FALL 2014

NAME \_\_\_\_\_  
Teaching Assistant \_\_\_\_\_  
Lab Meeting Time \_\_\_\_\_

Place all answers on the answer sheet; 2 points per question

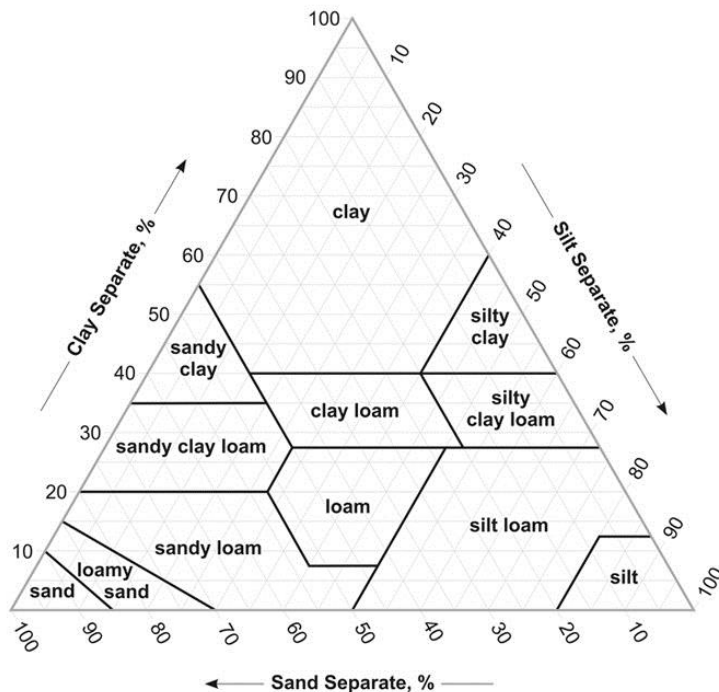
**FORMULAS**

$PPT = (PET - D) + S \pm \Delta \text{ SOIL}$

$G = V \div H$        $Q = V \cdot A$        $RI = (N + 1) \div M$       1 mi = 62,500 in

1. If one sieves 200 grams of soil and finds the following weights, what is the texture of the soil?: Sand 60 grams; Silt 70 grams; Clay 70 grams

- A. Loamy sand
- B. Silty clay loam
- C. Sandy clay
- D. Clay loam**
- E. Silt loam



2. Stream gradient was calculated through the use of a \_\_\_\_\_ in the Streams and Runoff investigation.

- A. stream velocity
- B. 3-D effect
- C. stereoscope
- D. map measurer**
- E. 100-year floodplain boundary

3. The following data are from a spot along a stream flowing through Ovando Hollow. Discharge is 40 cubic meters per second. The stream flows at 2 meters per second. What is the cross-sectional area (meters squared) of the stream at that spot?

- A. 0.05
- B. 5
- C. 20**
- D. 40
- E. More data are needed

4. Of the following, which is used to determine soil texture?

- A. soil structure
- B. opticon
- C. soil depth
- D. erodibility
- E. sieve**

5. In air photo analysis, a stereopair is composed of

- A. photographs eliminating parallax
- B. overlapping photographs**
- C. a stand containing two magnifying lenses
- D. color photographs
- E. a stereoscope with a thumb widget

6. Which of the following is FALSE on a vertical aerial photograph?

- A. Tall objects appear to lean outwards from the center
- B. The RF is the same anywhere on a single aerial photo**
- C. Aerial photos are commonly used by physical geographers
- D. Features can be identified using principles of object recognition
- E. Some aerial photos show landforms very well

7. On topographic maps, crenulation V's can determine \_\_\_\_\_ .

- A. direction of stream flow**
- B. stream discharge
- C. position of township and range boundaries
- D. the runoff coefficient
- E. the type of land use

8. Look at the photograph below; it is of part of Stillwater. From the list below, what is the most likely RUNOFF COEFFICIENT associated with this area of single family dwellings?

- A. 1.50
- B. 1.10
- C. 0.90
- D. 0.40**
- E. 0.10



9. In 1959, the notorious Wu Creek reached a stage of 32 feet. This was the sixth highest recorded stage in 89 years of recorded discharges. Calculate the recurrence interval (years) of a flood of this size on Wu Creek.

- A. 474
- B. 192
- C. 89
- D. 15**
- E. approximately 5.3

10. According to the Vegetation investigation, geographic distributions of plants are the **result of** the "holocenotic environment" meaning

- A. all environmental factors in combination**
- B. the distribution of rainfall
- C. the occurrence of plant diseases
- D. the geography of biomes
- E. the distribution of fauna

11. Quantitative soil limitation numbers are in use in the United States. When planning development, a developer would be wise to check the quantitative limitation rating for each soil. Which of the following could be a number indicating the MOST limitation for the placement of septic tanks?

- A. -10.00
- B. 0.00
- C. 1.00
- D. 10.00
- E. 100.00

12. Which of the following was NOT identified as a principle of object recognition in the *Lab Manual*?

- A. shape
- B. shadow
- C. texture
- D. size
- E. parallax

13. We are able to see some aerial photographs in 3-D because of

- A. shape
- B. shadow
- C. texture
- D. size
- E. parallax

14. Over a distance of 5 miles, Ben's River drops in elevation from 3,500 feet to 500 feet. What is the stream gradient in feet per mile?

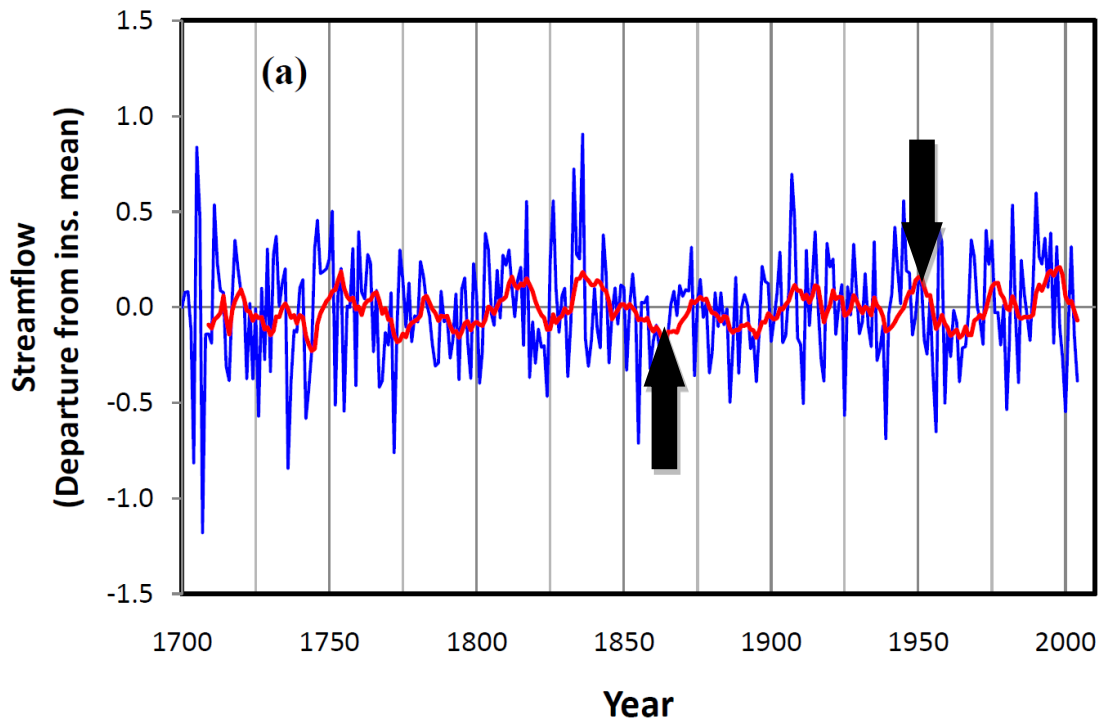
- A. 3
- B. 6
- C. 60
- D. 600
- E. Not enough information provided to solve for gradient.

15. The Kimmi-poo River has a cross sectional-area of 30,000 square feet. The discharge of is 90,000 cubic feet per second. What is the velocity of the creek in feet per second?

- A. 30,000
- B. 3,000
- C. 300
- D. 30
- E. 3

16. The line indicated in the graph below helps us to make sense of the variations shown in a stream's departure from its mean flow. The line of interest is the one closest to the tip of the arrows. It is known as a(n)

- A. average
- B. polynomial expression
- C. moving average
- D. tree ring index
- E. none of the above



17. In the stream table demonstration in lab, which of the following was NOT evident?

- A. Sand dune formation
- B. Knickpoint erosion
- C. The building of a stream delta
- D. A curved channel
- E. Sorting of sand grain sizes

18. The Cross Timbers ecoregion in which Stillwater lies is described by all of the following EXCEPT

- A. tall trees (> 30 m) heavily harvested for lumber
- B. the western limit of many mammal and insect species
- C. oaks on the more porous soils
- D. a mix of savannah, woodland, and prairie
- E. low hills

19. The aerial photograph below is about 1.5 mile across. Given the texture, shape, and size of the large feature dominating the photo, what is the feature?

- A. sink hole
- B. cinder cone
- C. haystack topography
- D. alluvial fan
- E. landslide



20. Consider any single location during a month. 100 millimeters is the soil moisture capacity. If precipitation exceeds potential evapotranspiration and the soil moisture storage started the month at 100 millimeters the condition is categorized as

- A. a surplus
- B. a deficit
- C. a positive water budget
- D. soil moisture utilization
- E. soil moisture recharge

21. In Kano, Nigeria (12°N). The end of the month of **JULY** represents which of the following soil moisture conditions? ALL NUMBERS ARE IN MM. THE SOIL MOISTURE CAPACITY IS 100 MM.

- A. Soil moisture surplus
- B. Soil moisture deficit
- C. Soil moisture recharge
- D. Soil moisture utilization
- E. Soil moisture exchange

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
PPT	0	5	15	25	100	160	250	280	240	110	10	172	1112
PET	150	160	175	180	140	130	125	120	130	140	150	16	559
PPT-PET	-150	-155	-160	-155	-40								
SOIL	0	0	0	0	0								
ΔSOIL	100	0	0	0	0								
DEFICIT	50	155	160	155	40								
SURPLUS	0	0	0	0	0								

KANO, NIGERIA                      SOIL MOISTURE CAPACITY 100 MM

22. Which of the below is a geographically extensive soil order of **western** Oklahoma as shown in lab?

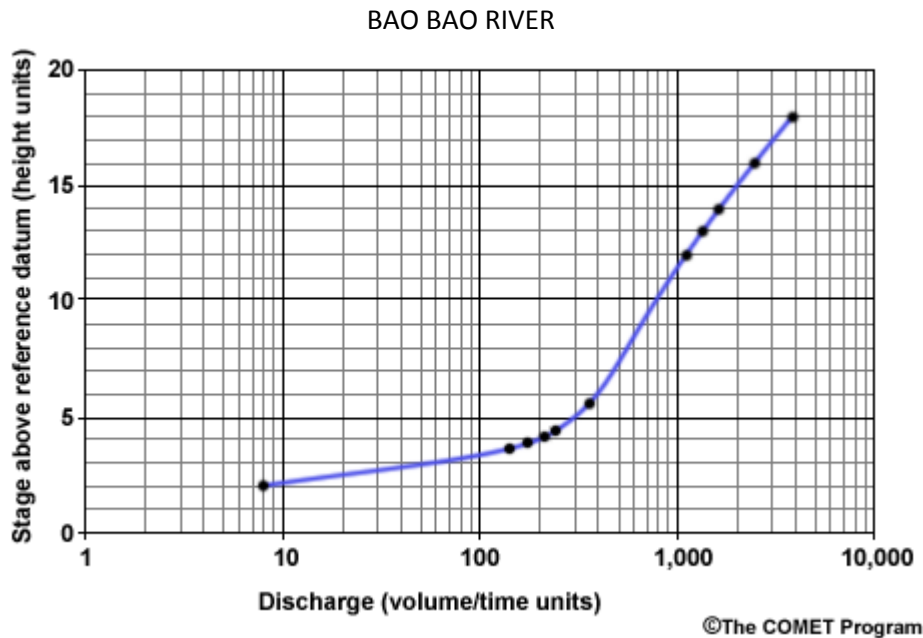
- A. Oxisols
- B. Podisols
- C. Andisols
- D. Mollisols
- E. Ultisols

23. The 100-year floodplain is the area near a stream which has a flood frequency of 1 in 100 years at its outer boundary. 100-year floodplains are mapped and regulated by this Federal agency:

- A. NSA
- B. USGS
- C. USDA
- D. FDA
- E. FEMA

24. You used a graph similar to the one below in the Streams Stages and Floods investigation to draw a curve for the Cimarron River. The curve for the Bao Bao River (below) is a \_\_\_\_\_ curve.

- A. flooding
- B. streamlog
- C. recurrence
- D. rating
- E. log-log



25. In the Soils Geography investigation you evaluated the soils at a location in southern Oklahoma in terms of the numerical limitations. Which of the below is best descriptive of your findings?

- A. It was impossible to drill a well
- B. The steep slopes were an important limitation
- C. The investigation asked you to choose soils for a cattle feedlot
- D. All soil series had the low limitation numbers
- E. The soils were mainly too swampy