SAMPLE EXAM #2 – ERTH 110 – SPRING 2017

It is highly recommended that you have a printed version of this handout in front of you with your best answers already selected as you take your timed exam. It will help you immensely and is a great study tool. Once you have opened the exam, the timer starts and you will have only 70 minutes to submit your answers.

Although this exam is an open notes exam, it is highly recommended that you use only a small index card to place notes on. This exam is timed and you will not have the luxury of time to look up all your answers after the exam has started. If you run out of time, you will not be able to go back and re-take the exam.

An answer key will not be posted for this sample exam, nor will I give answers to these questions via email. You are expected to work on these questions on your own. However, if you need any clarification on any of the questions, or you would like to ask me about concepts that don't involve giving away an exact answer, please feel free to email me anytime with any of those questions.

1. The top of a stratovolcano is typically made up from lava that was relatively:
   a. Hot and mafic
   b. Cold and mafic
   c. Cold and felsic
   d. Hot and felsic

2. Magma cools at its slowest rate when it is located _____.
   a. At the top of a volcano
   b. At earth's surface
   c. In a magma chamber
   d. In a lava tube

3. When hiking up most Stratovolcanoes, which rock composition(s) will you see from its base to its summit?
   a. Mafic at the bottom, intermediate in the middle, and felsic at the top
   b. Felsic at the bottom, intermediate in the middle, and mafic at the top
   c. Intermediate from bottom to top
   d. Felsic from bottom to top

4. Which choice below best describes a shield volcano?
   a. Broad, flat and felsic
   b. Tall, steep and felsic
   c. Broad, flat and mafic
   d. Tall, steep and mafic

5. Cinder cones have steep sides because
   a. of the high viscosity of the lava
   b. of the mafic composition
   c. of its cinders

6. Magma is made up of
   a. Solid
   b. Liquid
   c. Gas
   d. All of the above

7. Which volcano type can experience a Hawaiian type eruption?
   a. Shield volcano
   b. Cinder cone
   c. Stratovolcano/Composite Cone
   d. All of the above

8. Mount Shasta in Northern California is associated with a:
   a. Mid-ocean ridge
   b. Subduction zone
   c. Continental hot spot
   d. Oceanic hot spot

9. The breakdown of rock into smaller pieces describes which process:
   a. Chemical Weathering
   b. Mechanical Weathering
   c. Erosion

10. Which process ultimately makes soil?
    a. Chemical Weathering
    b. Mechanical Weathering
    c. Erosion

11. Which of the following is true about streams:
    a. Streams cause mountains to form
    b. Streams will eventually erode a region to flatness
    c. Streams will erode below base level
    d. None of these

12. The mouth of a stream is located:
    a. Where it enters another body of water
    b. At its beginning
    c. Along the longitudinal profile of a stream
    d. All of these

13. Which of the following houses the largest amount of fresh water by volume?
    a. Glaciers
    b. Streams and lakes
    c. The oceans

14. Spits form off of a headland due to:
    a. Increased energy and deposition of sand
    b. Decreased energy and deposition of sand
    c. Increased energy and erosion of sand
    d. Decreased energy and erosion of sand

15. Construction of dams upstream on rivers may lead to:
    a. Narrower beaches
    b. Wider beaches
    c. The filling in of bays
    d. The building of barrier islands

16. What is the most common source of sand on beaches?
    a. Land next to the beach
    b. Sand brought in by people
    c. Sand transported to the beach by rivers
    d. None of the above

17. At the bend in a river, the main deposition is _____.
    a. on the outside of the bend
    b. on the inside of the bend
    c. both the inside and outside of the bend

18. A key sign of submergence of coastal terrain is the presence of:
    a. Estuaries
    b. Marine terraces
    c. Atolls
    d. Tombolos

19. A metamorphic rock called gneiss is found inside a block of granite. Using the "Principle of Inclusion", which is older?
    a. Granite
    b. Gneiss
    c. Both are the same age
    d. There is no way to know which is older

20. Imagine three layers of sedimentary rock that sit horizontally one on top of the other, like a layer cake. As you investigate further, you find that a fault has cut and offset the two lowermost layers, but doesn't cut and offset the top most layer. What scenario below is the most likely to have occurred in this situation?
    a. When the fault cut the layers, it didn't cut all the way to the top. It stopped cutting and offsetting just below the top layer.
    b. The top layer didn't exist when the fault offset the bottom layers. The top layer deposited after the fault cut and offset the bottom two layers.
    c. There is no way to tell what happened in this situation.

21. A fault has cut layers of sedimentary rock. In determining the relative ages of the sedimentary layers and the fault, which principle do you ultimately need to use?
    a. Principle of unconformities
    b. Principle of inclusion
    c. Principle of cross-cutting
    d. Principle of superposition

22. A fault cuts through a layer of shale. Which is younger? How do you know?
    a. The shale. Principle of inclusions.
    b. The fault. Principle of inclusions.
    c. The shale. Principle of cross-cutting.
    d. The fault. Principle of cross-cutting.

23. Two rock units are sitting one on top of the other. The lower rock unit is granite. The upper rock unit is sandstone. The sandstone shows no signs of contact metamorphism. What type of contact is present between the granite and the sandstone?
    a. Disconformity
    b. Nonconformity
    c. Angular unconformity
    d. None of the above

24. Two rock units are sitting one on top of the other. The lower rock unit is sandstone. The upper rock unit is shale. There are major signs of erosion sitting between the two rock units. What type of contact is present between the sandstone and the shale?
    a. Disconformity
    b. Nonconformity
    c. Angular unconformity
    d. None of the above

25. A layer of sandstone has been offset by a fault in a vertical direction. What type of fault would this be from the choices below?
    a. Dip-slip fault
    b. Strike-slip fault

26. The San Andreas fault is a:
    a. Dip-slip fault
    b. Strike-slip fault

27. Disconformities can involve the rock unit granite.
    a. True
    b. False

28. Nonconformities can involve the rock unit granite.
    a. True
    b. False

29. New Orleans flooded during Hurricane Katrina due to levee failure.
    a. True
    b. False

30. The hydrologic cycle is driven primarily by solar energy.
    a. True
    b. False

31. The greater the water content of rock, the lower its melting point.
    a. True
    b. False

32. Differentiation of magma in a magma chamber results in a more felsic magma.
    a. True
    b. False

33. The greater the percentage of silica in magma, the less viscous it is.
    a. True
    b. False

34. The velocity of a river usually increases downstream.
    a. True
    b. False

35. The discharge of a river usually decreases downstream.
    a. True
    b. False

36. Quartz is easily weathered to clay.
    a. True
    b. False

37. Synclines and Anticlines are formed due to:
    a. Compression
    b. Tension
    c. Synclines are formed by tension and Anticlines are formed by compression
    d. Synclines are formed by compression and Anticlines are formed by tension

38. Spits are a type of:
    a. Erosional feature
    b. Depositional feature

39. Coastal features that exist due to deposition are made from loose sediment like sand.
    a. True
    b. False

40. Refraction means the bending of a wave.
    a. True
    b. False

Question 41: Mix and Match - match the term on the left with its definition on the right (15 pts).

Conglomerate	a. Mud size grains
Sandstone	b. Sand size grains
Breccia	c. Rounded gravel size grains
Shale	d. Angular gravel size grains
Limestone	e. Chemical sedimentary rock

Question 42: Mix and Match - match the term on the left with its definition on the right (15 pts).

Weathering	a. Transport of sediment by water, wind or ice
Erosion	b. Gravity induced transport of sediment
Mechanical Weathering	c. Breakdown of rock
Chemical Weathering	d. Breakdown happens at the molecular level
Mass Wasting	e. Breakdown happens physically

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*Note that questions 41 and 42 above count as 5 questions each for a total of 50 questions for this exam.