**ES322 Geomorphology Video Review Exercise Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Watch the video and answer the following review questions; use internet search tools (google, Wikipedia, etc.) as need to answer questions and augment the video.

**Introduction to Climate-Tectonic Coupling (Youtube Video ~9 minutes)**

<https://www.youtube.com/watch?v=jyoq7EhNioI&list=PL9VyaJQeLofzpy3lwBQh7kLdH9P-awOso>

1. What is the primary process on planet Earth that creates ocean basins, continental land masses and mountain ranges.
2. What types of plate tectonic boundaries are mountain ranges formed, provide two geographic examples globally, as described in the video.
3. Why is plate convergence important for building mountain topography?
4. If tectonics builds the landscape, what processes carve into the uplifted bedrock in mountainous terrains. Provide some examples, as discussed.
5. How are mountain valleys formed?
6. True or False: topography has no influence on the Earth’s climate.
7. Compare the vegetation and topography of the Tibetan Plateau vs. lowland landscapes to the south in India.
8. Based on the Himalayan precipitation map presented, from which direction does weather / rainfall come from over the Himalaya mountain range.
9. True or False: the high plateau of Tibet is wet and humid rainforce.
10. Define and describe the term “orographic precipitation”.

**Introduction to Faults and Folds (~5 min, Youtube)**

<https://www.youtube.com/watch?v=A_ZRtS3QGHw>

1. Define the geologic term fault? What types of forces create faults.
2. List the three primary types of faults, provide a definition, and draw a sketch of each.
3. True or False: stretching and tension are associated with forming normal faults.
4. True or False: squeezing and compression forces are associated with forming reverse faults.
5. Draw and label a sketch showing tectonic forces of compression, tension, and shearing.
6. True or False: fault motion is associated with earthquakes.
7. What is a fault-block mountain, and how is it formed.
8. What is a folded mountain, and how do they form.
9. Compare and define the difference between an anticline and syncline, draw sketches to illustrate your answers.

**Introduction to Tectonic Geomorphology (Youtube Video ~16 minutes)**

<https://www.youtube.com/watch?v=R53GNDZfg0I>

1. Provide three examples of Earth geographic features that represent the interface between the study of tectonics and the field of geomorphology.
2. Define the notion of “geomorphic markers” and how they are used to provide evidence of plate tectonic activity. Provide 2 examples.
3. Define the geomorphic term “terrace”, provide a sketch and describe how it is formed.
4. Distinguish between Constructional vs. Erosion terraces. Provide 1 example for each as to how they are used to provide evidence of plate tectonic activity.
5. What is the difference between the terms “relative sea level” and “eustatic sea level”.
6. True or False: all erosional sea cliff terraces are well preserved over geologic time.
7. How many marine terraces have been identified on the Island of Crete? How old are the terraces of Crete?
8. True or False: tectonic uplift rates may vary over geologic time.
9. Draw a sketch of a strike-slip fault that shows offset of an active stream channel at the Earth’ surface.
10. Draw a sketch illustrating fault offset of alluvial fans in southern California.
11. Define and describe the concept of a “strath” river terrace, draw a sketch.
12. How are river terraces formed and preserved in tectonically active environments.
13. View the segment discussing examples of river terraces in the uplifting Himalaya Mountain Range. How many river terraces are identified in the example given? What is the age range of the terraces given in the example.
14. What type of fault is associated with the example given for the Himalaya? Draw a sketch showing a thrust fault.