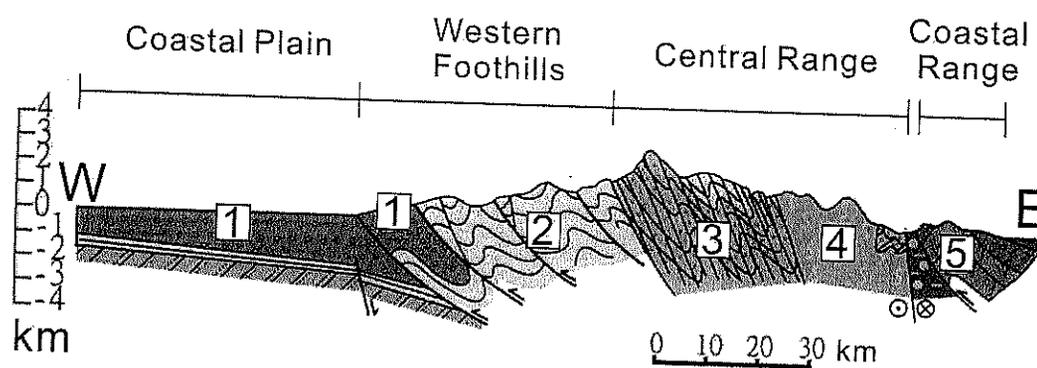


1. Based on the origins, rock is generally classified into three types: igneous rock, metamorphic rock, and sedimentary rock. (1) Please elucidate the origins of these rocks. (2) How can we recognize (or differentiate) these rocks in the field? (20 points)
2. In a brittle condition, there are three major types of folds that are created with the movement of faults: fault-bend fold, fault-propagation fold, and detachment fold. Please draw cartoons to illustrate these three types of folds. (15 points)
3. Please provide evidence to show that the mountains of Taiwan have been growing actively throughout the late Quaternary. (10 points)
4. People commonly regard human developments (e.g., deforestation, mining, house building) as the causes for landslides/debris flows in the mountains of Taiwan. Please comment on this aspect. (15 points)
5. Explain or define the following terms: (25 points)
 - (1) Mineral
 - (2) Glacial-interglacial climate change
 - (3) Hydrology
 - (4) Stratigraphy
 - (5) Plate tectonics

6. The figure below is the sketched cross section of Taiwan Island summarizing its morph-geological divisions. Please write down the major rock types constituting the labelled areas (1 – 5) (the general ages of these rocks/formations are shown below). (15 points)



- ① Pliocene to Quaternary
- ② Miocene
- ③ Eocene - Miocene
- ④ Pre-Tertiary
- ⑤ Miocene - Pleistocene