

**MID-TERM EXAMINATION**

Please, provide short answers to the following questions; simple sketches may prove useful in some of these questions.

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**1) What is magmatic differentiation and what types of rocks form from this process?**

**As an example illustrate:**

**A) The development of plutons and relate to a specific plate tectonic process.**

**B) The mechanism for magma generation below spreading centers, and the unique characteristic of volcanic rocks that form along Mid-ocean ridges.**

**2) Describe the three plate boundaries and give examples. Use a sketch to illustrate boundaries in 3-D and use different geographical areas to illustrate boundary types. Also explain how a triple junction relates to boundary types.**

**3) What is a turbidite? How is it formed, and what is the depositional environment for such a unit? What is the difference in grain sizes, textural characteristics, and sedimentary structures between turbiditic and aeolian sand deposits?**

**4) List the three main types of faults, along with simple sketches showing the types of offsets, and indicate the type of plate margin in which each fault type is most likely to predominate.**

**5) There are three layers labeled on the diagram below that is a simplified cross-section of a mid-ocean ridge. Layer (a) and (b) are sedimentary, while layer (c) is composed of igneous rocks:**

**A. Identify the three layers and show the present location of the CCD on the diagram.**

**B. What is the CCD? How is it defined and what is its influence on the distribution of deep-sea sediments?**

