

## Physical Geography (H2)

### Section A

Answer **all** questions in this section.

Questions 1, 2 and 3 carry 12 marks and Question 4 carries 14 marks.

You should allocate your time accordingly.

#### Lithospheric Processes, Hazards & Management

1. Fig. 1 shows Strakhov's Model of weathering zones in the world.

(a) Describe the relationship between the availability of moisture and the depth of the regolith throughout the world. [4]

(b) Explain the relationship between the various factors in the model and the depth of weathering. [8]

#### Lithospheric Processes, Hazards & Management

2. Fig. 2A and 2B shows Peltier's Model of weathering zones in the world.

(a) Describe the relationship between temperature, rainfall, weathering and mass movements. [4]

(b) Explain the relationship between temperature, rainfall, weathering and mass movements. [8]

#### Hydrologic Processes, Hazards & Management

3. Fig. 3 shows a sketch of a river system.

(a) Show how you would derive the stream order of the drainage basin. [3]

(b) Show how you would derive the bifurcation ratio of the river system. [4]

(c) Explain the factors that would affect the drainage density of a basin. [5]

**Lithospheric and Hydrologic Processes, Hazards & Management**

4. Fig. 4A shows a model of a vegetated hillslope and figure 4B shows a vegetated mountain valley.

(a) Explain the slope processes occurring at X. [2]

(b) Draw an annotated sketch showing the cross-section of transect AB. [4]

(c) Explain the relationships and processes which occur between the slope subsystem and the river subsystem. [8]

### Section B Essay Questions

Answer **two** questions in this section.  
Each question carries 25 marks.

#### Lithospheric Processes, Hazards & Management

##### 5. EITHER

- (a) Briefly discuss the effectiveness of weathering in different climates. [9]
- (b) Discuss the relationship between climate, weathering and the intensity of mass movements. [16]

OR

- (a) Compare and contrast the characteristics of the 3 major rocks types on Earth. [9]
- (b) Discuss the relationship through which the weathering of granite and limestone and the removal of weathered materials produces landforms. [16]

#### Lithospheric Processes, Hazards & Management

##### 6. EITHER

- (a) Discuss the effects of volcanic eruptions. [9]
- (b) Account for the worldwide occurrence of andesite, rhyolite and basalt and the tectonic environments which are associated with their formation. [16]

OR

- (a) Describe the characteristics of earthquakes. [9]
- (b) Evaluate the strategies used to predict, mitigate and respond to the effects of a volcanic eruption near an inhabited area. [16]