St Andrew's Junior College
Preliminary Examinations
Higher 2

GEOGRAPHY 9730/01

Paper 1 Physical Geography **14 September 2012**
3 hours

Additional Materials: 1 Insert
World outline map

READ THESE INSTRUCTIONS FIRST

Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs, or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
Begin each question on a fresh page.

Section A
Answer **all** questions.

Section B
Answer **two** questions, each from a different topic.

The Insert contains all the Photograph and Figures referred to in the question paper.
Diagrams and sketch maps should be drawn whenever they serve to illustrate an answer.
The world outline map may be annotated and handed in with relevant answers.
You are reminded of the need for good English and clear presentation in your answers.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

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 and Management

1 Photograph A shows a landform developed in granite rock on the Caingorm Plateau, Scotland.

(a) With the aid of an annotated sketch, identify and describe the characteristics of the landform shown in Photograph A. [4]

(b) Explain the weathering processes that have contributed to the formation of the landform in Photograph A. [4]

(c) Explain two factors that affect the development of landform in Photograph A. [4]

Atmospheric Processes, Hazards and Management

2 Fig. 1 shows areas of tropical cyclone formation.

(a) With reference to Fig. 1, describe the distribution of tropical cyclone activity. [4]

(b) Outline the environmental conditions required for tropical cyclone formation. [3]

(c) Explain the absence of tropical cyclones at the Equator. [1]

(d) Explain the formation of tropical cyclone described in (a). [4]

Hydrologic Processes, Hazards and Management

3 Fig. 2 shows precipitation and run-off for a river basin in northern England.

(a) Compare the terms ‘global hydrological cycle’ and ‘drainage basin hydrological cycle’. [2]

(b) With reference to Fig. 2, describe and explain the relationship between precipitation and run-off through the year. [5]

(c) Outline the fieldwork techniques you would use to measure the drainage density of a river basin. [5]

Atmospheric Processes, Hazards and Management and Hydrologic Processes, Hazards and Management

4 Fig. 3A and Fig. 3B show the Rainfall Estimates (RFE) and the Integrated Food Security Phase Classification in Eastern Africa respectively.

(a) With reference to Figs. 3A and 3B, describe the relationship between Rainfall Estimates (RFE) and Integrated Food Security Phase Classification in Eastern Africa. [4]

(b) Explain how El Nino influences the development of drought. [4]

(c) Explain how drought affects the different flows and storages within a drainage basin. [6]

Section B

Answer **two** questions, each from a different topic.
All questions carry 25 marks.

Lithospheric Processes, Hazards and Management

5 EITHER

a) With the aid of a diagram, describe the processes operating in the rock cycle. [9]

b) Discuss the role of Plate Tectonics Theory in explaining the nature and distribution of volcanoes and earthquakes. [16]

5 OR

a) With the aid of diagrams, explain how geology influence the development of karst features in temperate regions. [9]

b) 'The higher the level of development of an area, the more effectively the area can reduce the risks posed by mass movement hazards'. With reference to examples, examine the validity of this statement. [16]

Atmospheric Processes, Hazards and Management

6 EITHER

(a) Using the concept of lapse rate, explain the formation of precipitation in tropical and equatorial regions. [9]

(b) Describe the main aspects of the tropical savanna climates. To what extent are they distinctive from the other tropical climates? [16]

6 OR

(a) Fig. 4 shows how insolation varies with latitude and season across the Earth's surface. Using Fig. 4, account for the variations in insolation on the Earth's surface. [9]

(b) 'The impact of cyclonic hazards depends largely on the effectiveness of planning for disaster prevention'. Evaluate the statement above with the aid of examples. [16]

Hydrologic Processes, Hazards and Management

7 EITHER

a) Explain how human activities can affect the scale of flooding? [9]

b) To what extent are the conflicts of interests that operate within and between riparian states largely political? [16]

7 OR

a) With the aid of a diagram, describe and explain how sub-surface flows and stores may contribute to surface flows and stores. [9]

b) Explain the term channel morphology. With the aid of diagrams, explain how fluvial processes are responsible for varying channel morphologies. [16]

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