2001 HIGHER SCHOOL CERTIFICATE EXAMINATION

Earth and Environmental Science

Centre Number

Student Number

Section I (continued)

Part B – 60 marks
Attempt Questions 16–26
Allow about 1 hour and 45 minutes for this part

Answer the questions in the spaces provided.

Marks

Question 16 (6 marks)

(a) Name the most common igneous rock formed at ocean–ocean convergent plate margins. **1**

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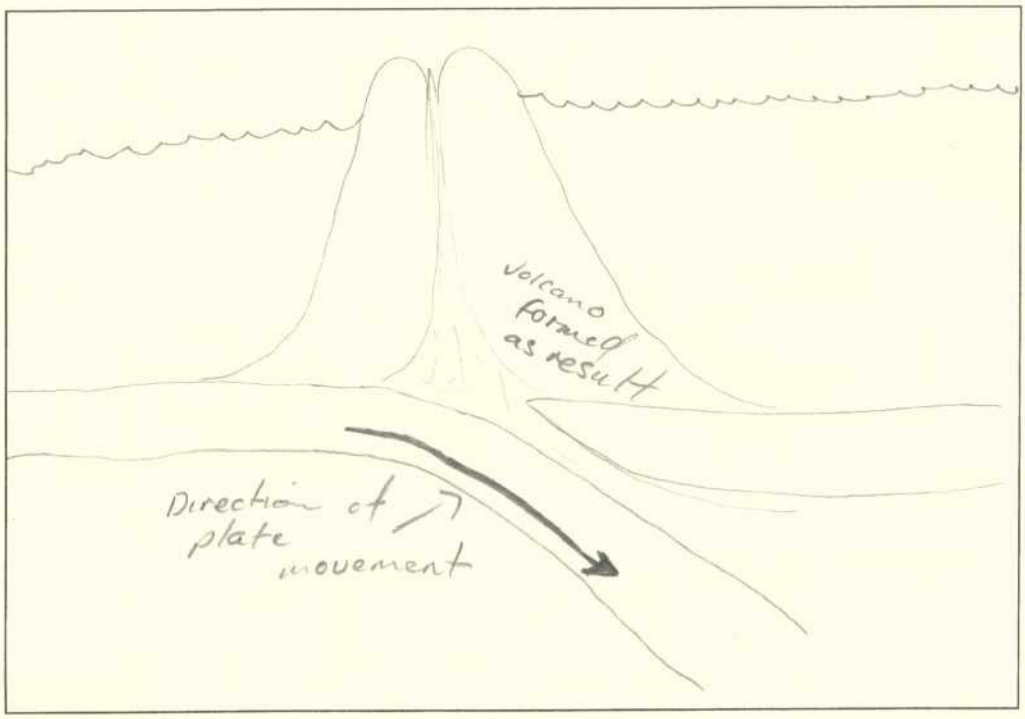
(b) Define the term *lithospheric plate.* **2**

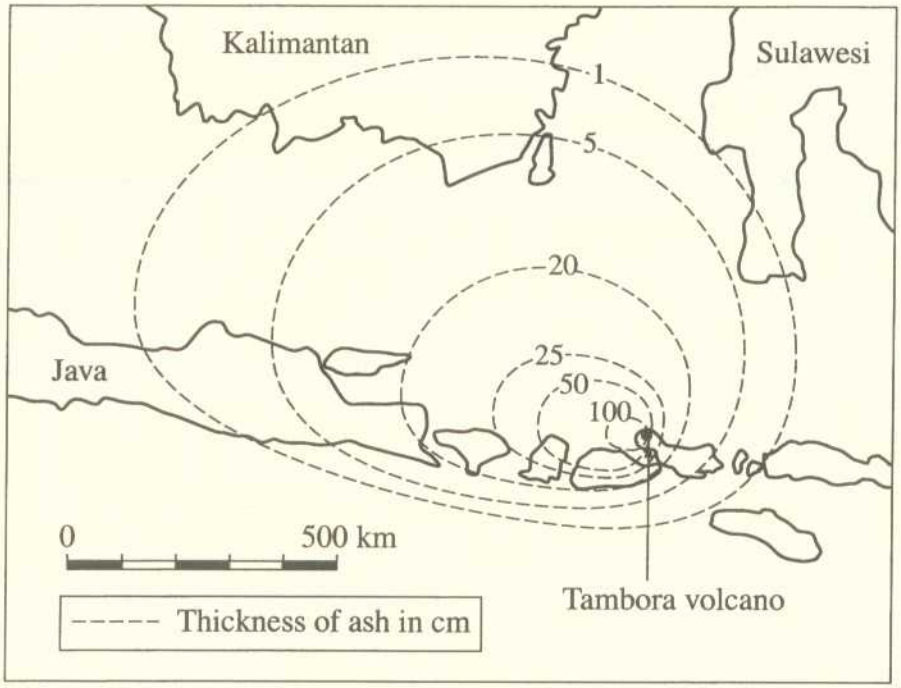
The part of the crust that lie atop the asthenosphere and are the cause of surface e/q when they hit each other. Are made of the solid rock.

(c) Draw and label a diagram of an ocean–ocean convergent boundary to show the plate motion and a resulting landform feature or environment. **3**

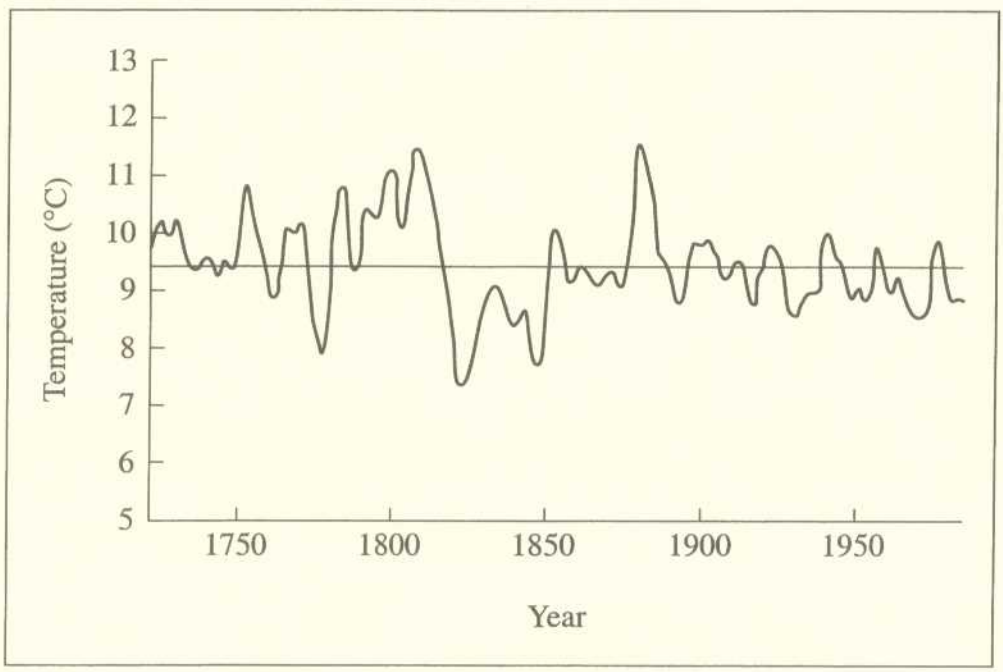


Question 17 (6 marks)

The diagram shows the location of the Tambora volcano in Indonesia, and the depth of ash fall following the 1816 eruption.



The year 1816 was globally known as the *year without summer.* The graph shows temperatures in North America and Europe from 1720 to 1980.



Question 17 continues on page 15

Marks

Question 17 (continued)

(a) Describe the impact of the Tambora eruption on global temperature. **2**

The eruption has decreased global temperatures. This is most likely the result of sun light been blocked by the cloud of ash that followed the eruption.

(b) Explain the likely impact of the Tambora eruption on local and global agriculture. **4**

Local and Global agriculture would be greatly affected. Global agriculture would suffer due to a lack of light and warmth to support certain crops. Local agriculture would be affected by this, but also by acid rain and the crops would be smothered by the ash fallout, especially the islands of Kalimantan, Sulawesi and Java.

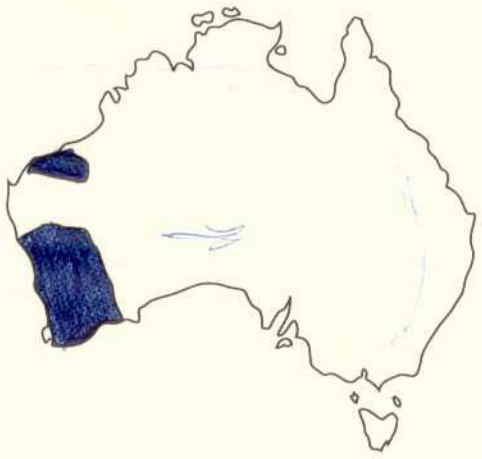
End of Question 17

Please turn over

Marks

Question 18 (8 marks)

The shaded area of Australia indicates the location of the oldest rocks of the continent. **8**



Outline how the Australian continent has grown over geological time as a result of plate tectonic processes.

Tectonic Processes have helped to form Australia over geological time. The continent was cratonised over a long period of time. Starting on the west coast and going East. Australia, while still attached to Antarctica was travelling north over a hotspot which produced many volcanoes along the now eastern coast. As Australia past the hotspot the eastern coast became cratonised as well. The movement of the plate, plate techtonics created the continent as it is now. Many of the now extinct volcanoes akkong the east coast are still now visable.

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