RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Sciences

Third Year Semester II Examination – April / May 2015

PHY 3105 – PHYSICAL GEOLOGY

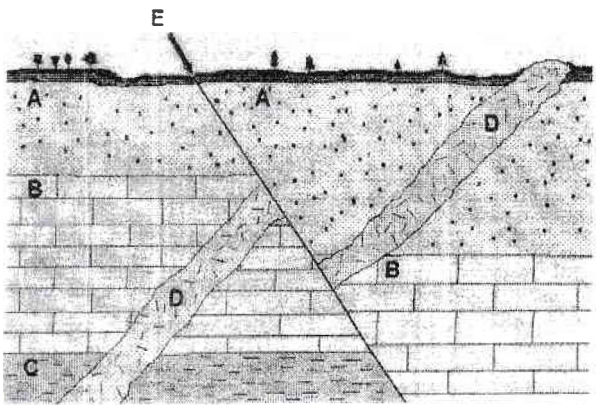
Time: One (01) hour

Answer two questions only.

(a) What is "Bracketing and Correlation" used in the determination of the relative age of rocks? [15 marks]

(b) (i) Give the sequence of events (from the youngest to the oldest) in the following diagram (A, B and C are sedimentary rock layers, D is a magma intrusion and E is a fault). [05 marks]

(ii) What are the relative age principles used in (i) above? [10 marks]



(c) "*Accurate radiometric dating for metamorphic rocks is more difficult*". Briefly explain the above statement. [10 marks]

(d) Explain why the *zircon* ($ZrSiO_4$) is widely used in U/Pb dating. [10 marks]

Contd.

02. **(a)** What are seismic waves? Discuss the characteristics of each type of seismic waves. [10 marks]

(b) Discuss the working principle of the Linear Variable Differential Transducer (LVDT) used in modern seismometers. [15 marks]

(c) What are "Travel – Time curves"? What is the importance of these curves in the determination of the epicentre of an earthquake? [10 marks]

(d) *The intensity of an earthquake at a certain place is variable depending on the distance from that place to the epicentre of the earthquake.* How do you take this fact into consideration in the determination of the Richter Magnitude? [15 marks]

03. Write **short notes** on the following;

(i) S - wave shadow zones.

(ii) Holocene epoch.

(iii) Physical properties of minerals.

(iv) Intrusive igneous rocks.

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