

**The Assam Royal Global University, Guwahati**  
**Royal School of Environmental and Earth Sciences (RSEES)**  
**M.Sc. 1<sup>st</sup> Semester**

**Semester End Examination, December 2018**

**Course Title: DSE-1 Earth Processes**

**Course Code: ENV164C105**

**Time: 3 Hours**

**Maximum Marks: 70**

**Note: Attempt all questions as per instructions given.**

*The figures in the right-hand margin indicate marks.*

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**SECTION A**

- 1. Attempt all questions. (Maximum word limit 50) 2 x 8**
- a. Give two examples of carbonate minerals.
  - b. What is geological clock. Write the classification of geological time.
  - c. Give two examples of sedimentary rocks.
  - d. What is igneous rock. Give two examples
  - e. Define insolation and solar constant.
  - f. Define focus and epicentre.
  - g. What are the significant causes of earthquake.
  - h. What is magma? What are the various types of magma.

**SECTION B**

- 2. Answer the following questions (any four) 3.5×4**
- a. Write the elemental composition in percentage of the earth's crust.
  - b. Illustrate the Koppen's classification of climatic zones.
  - c. Write a note on composition of earth's crust.
  - d. Briefly describe the SIAL, SIMA and NIFE layers found in earth's crust.
  - e. What are sedimentary rocks? Write the characteristics of sedimentary rocks.
- 3. Answer the following questions (any four) 3.5×4**
- a. What is seismic wave? Define the various types of seismic waves.
  - b. What is weathering? Briefly explain the different types of weathering on earth's surface.
  - c. Write the detailed classification (with examples) of various rock forming minerals.
  - d. Define mass movement. Briefly classify the types of mass movement.
  - e. List the factors affecting insolation.
- 4. Answer the following questions (any four) 3.5×4**
- a. Write a note on seasons in India.
  - b. Explain the heat budget of the earth assuming the incoming solar radiation as 100 units.
  - c. Explain the phenomena of El-Nino and La-Nina
  - d. Explain the effect of atmosphere on the distribution of insolation on earth.
  - e. What do you mean by electromagnetic radiation? Explain the characteristics of different spectra of electromagnetic radiation.
- 5. Answer the following questions (any three) 4×3**
- a. Define earthquake? Illustrate the various effects of earthquake.
  - b. Write a note on hydrological cycle in the biosphere.
  - c. Define volcanism. Illustrate the various likely effects of volcanic eruptions on climate.
  - d. Explain the various hazardous effects of volcanic eruptions.