

01669

**B.Tech. Civil (Water Resources  
Engineering)**

**Term-End Examination  
December, 2010**

**ET-531(A) : EARTH & ITS ENVIRONMENT**

*Time : 3 hours*

*Maximum Marks : 70*

*Note : Answer any five questions. All questions carry equal marks. Well-labelled sketches will carry due weightage.*

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1. Describe the following : 5+5+4=14
- (a) Hydrosphere ;
  - (b) Biosphere ; and
  - (c) Lithosphere.
2. (a) Explain hydration and hydrolysis with respect to chemical weathering of rocks. 3
- (b) Describe what do you understand by erosion and denudation in weathering process. 8
- (c) Discuss the three drainage patterns with respect to running water. 3
3. (a) Outline the various types of earthquake waves. 5
- (b) Discuss recording of earthquake waves; and Richter's scale. 6
- (c) List the effects of an earthquake. 3

4. (a) Explain the five laws of radiation in respect of heat balance of our planet. 9  
(b) Discuss the energy output of Earth as its response to Sun's radiant energy. 5
5. (a) What are Igneous rocks ? Discuss their modes of occurrence; and explain what is understood by extrusive and intrusive rocks. 7  
(b) Explain the various structures found in igneous rocks, and their textures. 7
6. Detail out the fold-classification found in nature. 14
7. (a) What do you understand by foliation, lineation, and cleavage of rocks ? Explain. 7  
(b) Briefly outline geological time-scale, touching all the relevant aspects. 7
8. Write short notes on the following :  $4 \times 3\frac{1}{2} = 14$   
(a) Ecosystem ;  
(b) Clouds of water ;  
(c) Biomass ;  
(d) Quartz group of rocks
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