

**320356(20)**

**B. E. (Third Semester) Examination,  
April-May 2020**

**(New Scheme)**

**(Civil Branch)**

**ENGINEERING GEOLOGY**

*Time Allowed : Three hours*

*Maximum Marks : 80*

*Minimum Pass Marks : 28*

*Note : All question are compulsory, carrying equal marks. Attempt any two parts from (b), (c) & (d) however, part (a) is compulsory to attempt from each question.*

**Unit-I**

1. (a) Explain 'Mantle', of the Earth. 2
- (b) Write physical properties for megascopic identification of any four of the following : 7

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- (i) Amethyst
  - (ii) Felspar
  - (iii) Gypsum
  - (iv) Calcite
  - (v) Muscovite
  - (vi) Asbestos
- (c) Explain the importance of engineering geology for civil engineers. 7
- (d) Describe various megascopic properties used for identification of minerals in laboratory. 7

### Unit-II

2. (a) Differentiate between magma and lava. 2
- (b) Describe various types of folds seen in the rocks. 7
- (c) Describe the agents and types of metamorphism. 7
- (d) Write short notes on any **four** of the following : 7
- (i) Horst and Graben
  - (ii) Normal and Reverse fault
  - (iii) Unconformity
  - (iv) Ripple marks

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- (v) Gill and Dyke
- (vi) Current bedding & Graded bedding

### Unit-III

3. (a) Define "Tsunamis" 2
- (b) Propose a classification of Earthquake and explain seismic zones of India. 7
- (c) Explain the properties of seismic waves. 7
- (d) Explain origin of Earthquakes on the basis of the theory of plate tectonics. 7

### Unit-IV

4. (a) Define 'Avolanches'. 2
- (b) Explain different types of land movements. 7
- (c) Define landslide. Explain causes and preventive measures of landslides. 7
- (d) Explain the significance of ground water/rainwater in landslide. 7

### Unit-V

5. (a) Define 'dip' and 'strike'. 2

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- (b) Explain influences of various geological structure upon stability of a dam. 7
- (c) Explain various geological criterias used for site selection of an ideal Tunnel site. 7
- (d) Explain the characteristics of a geological map. 7

Unit-IV

- (a) Define Landslides. 7
- (b) Explain different types of landslides. 7
- (c) Define landslides. Explain causes and preventive measures of landslides. 7
- (d) Explain the significance of ground water/surface water in landslides. 7

Unit-V

- (a) Define dip and strike. 7