

320356(20)

B. E. (Third Semester) Examination, April-May 2021

(New Scheme)

(Civil Engg. Branch)

ENGINEERING GEOLOGY

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : All questions from part (a) carries 2 marks each. Part (b), (c) & (d) carries 7 marks each. Solve each question for 16 marks.

Unit-I

1. (a) Define Mineralogy. 2

(b) Discuss briefly the different properties of mineral and state their importance, with regards to identification of mineral specimens. 7

[2]

- (c) Write short notes on : (any **four**) 7
- (i) Galena
 - (ii) Quartz
 - (iii) Magnetite
 - (iv) Haematite
 - (v) Muscovite
 - (vi) Orthoclase
 - (vii) Tourmaline

- (d) What are rock forming minerals? Give a brief account of physical properties of the felspar, pyroxene, amphibole and mica group of mineral. 7

Unit-II

2. (a) Define Petrology. 2
- (b) What is Metamorphism? Write an agent of metamorphism. Describe process of metamorphism in detail. 7
- (c) Explain the common types of folds with neat sketch in detail. 7

[3]

- (d) Write short notes on : (any **four**) 7
- (i) Dip, strike and outcrop
 - (ii) Unconformity
 - (iii) Current bedding
 - (iv) Axial plane
 - (v) Fold axis
 - (vi) Anticlinorium and Synclinorium

Unit-III

3. (a) Define Seismograph. 2
- (b) Write the causes of an earthquake, and classify it. 7
- (c) Explain Seismic zone of India in detail. 7
- (d) Write short notes on : (any **two**) 7
- (i) Epicentre, focus, epicentral distance
 - (ii) Seismic waves
 - (iii) Elastic rebound theory
 - (iv) Problem due to earthquake in India

Unit-IV

4. (a) Define Mass Wasting. 2

[4]

- (b) Write the causes of landslide, classify it in detail. 7
- (c) Explain preventive measures against landslide. 7
- (d) Write short notes on the following : (any **three**) 7
- (i) Case study of landslide
 - (ii) Subsidence
 - (iii) Geological consideration in design of landslide hazardous zone
 - (iv) Role of GIS in landslide disaster

Unit-V

5. (a) Define Tunneling. 2
- (b) Write the factors to be consider for selection of Dam Site. 7
- (c) Discuss points to be cander before selection of Bridge site. 7
- (d) Write short notes on : (any **two**) 7
- (i) Geological Map
 - (ii) Role of geology in Civil Engineering
 - (iii) Methods of Tunneling