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Question Paper Code: ACE003



INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)

Four Year B.Tech III Semester End Examinations (Supplementary) - July, 2018

Regulation: IARE – R16

ENGINEERING GEOLOGY

Time: 3 Hours

(CE)

Max Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

UNIT – I

- (a) Describe the various geological factors that may cause trouble in the construction of a dam. Enumerate any one case histories of failure of dams. [7M]

(b) Enumerate salient characters of physical geology. Give a short account of wind cause erosion, transportation and deposition? [7M]
- (a) Describe chemical weathering and process which involves a reaction during the weathering of granite? Explain the types of chemical weathering? [7M]

(b) How is geology related to civil engineering? Illustrate the role of geological knowledge in planning and execution of civil engineering works. [7M]

UNIT – II

- (a) What is meant by metamorphism in rocks? Name any three Metamorphic rocks and choose their mineral composition, texture and engineering uses. [7M]

(b) Describe the various structures and textures found in Igneous rocks. [7M]
- (a) How do you define a Mineral? Explain different types of formations of Sedimentary rocks. [7M]

(b) Describe the important physical properties useful for the ready identification of minerals. [7M]

UNIT – III

- (a) Describe the different types of faults with neat figure. [7M]

(b) What are the causes for the formation of folds? [7M]
- (a) How do you classify seismic waves? State their properties. [7M]

(b) State the precautionary measures during the construction of civil engineering structures against earthquakes. [7M]

UNIT – IV

- (a) Describe the causes of silting up of reservoir. What are the factors contributing to the success of a reservoir? [7M]

(b) What are seismic methods of prospecting? Explain its principle with a neat sketch. What are its uses? [7M]

8. (a) Discuss in brief the essential features of different grouting methods undertaken for ground reinforcement in civil engineering projects. [7M]
(b) Correlate the difference between the gravity method and magnetic method of Geophysical investigation. [7M]

UNIT – V

9. (a) What is a tunnel? Describe the various geological problems met during the construction of tunnels in consolidated rocks. [7M]
(b) Write descriptive notes on the following features in tunneling. [7M]
 i. Lining in tunnels
 ii. Uses of tunneling
10. (a) Explain the effects of cutting the rocks while consideration in driving the tunnels. [7M]
(b) Write down the important aspects of tunneling which is been served for specific purposes. [7M]

