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B020415(020)

B. Tech. (Fourth Semester) Examination, April-May 2021

AICTE

(~~New~~ Scheme)

(Civil Engg. Branch)

ENGINEERING GEOLOGY

Time Allowed : Three hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : *Attempt all questions. Part (a) from each question is compulsory. Attempt any* ***two*** *parts from part (b), (c) and (d) of each question.*

Unit-I

1. (a) Mention the scope of geology to civil engineering. 4

(b) Give a detailed account of the interior of the earth. 8

(c) Describe the radioactive method of determination of age of the earth. 8

(d) Describe the most justified theory of origin of the earth, from your point of view. 8

Unit-II

2. (a) Differentiate rock, mineral and ore. 4

(b) Describe various physical properties of minerals used in the megascopic identification of minerals. 8

(c) Describe various engineering properties of rocks. 8

(d) Describe megascopic properties of any **four** of the following : 4×2=8

(i) Felspar

(ii) Muscovite

(iii) Hematite

(iv) Calcite

(v) Gypsum

Unit-III

3. (a) Differentiate between primary rocks and secondary rocks. 4

(b) Classify igneous rocks and describe major structures and textures of igneous rocks. 8

(c) Write petrographical notes : 4×2=8

(i) Pegmatite

(ii) Basalt

(iii) Dolerite

(iv) Gabbro

(d) Write notes on : 4×2=8

(i) Ripple marks

(ii) Graded bedding

(iii) Conglomerate and Breccia

(iv) Laterite

Unit-IV

4. (a) Define unconformity and mention its types. 4

(b) Describe various types of folds in the rocks. 8

(c) Describe various types of faults in the rocks. 8

(d) What are joints? Describe various types of joints in the rocks. 8

Unit-V

5. (a) Describe land subsidence with examples. 4

(b) Give a brief account of detailed geological investigations carried out in major engineering projects. 8

(c) Describe causes, effects and preventive measures of landslides. 8

(d) Illustrate the geological considerations in design of constructed facilities and infrastructures. 8