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ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - ARREAR EXAMINATIONS, APR / MAY 2024

CIVIL ENGINEERING

Semester - 3

AG5305 - ENGINEERING GEOLOGY

(Regulations 2015 / 2019)

Time:3hrs

Max.Marks: 100

CO1	Understand the internal structure of earth
CO2	Have better understanding of the role of minerals in engineering properties of construction materials and foundation rocks.
CO3	Appreciate the role of geological structures in the design and construction of major civil engineering projects.
CO4	Gain knowledge on the role of geological mapping, remote sensing and geophysics for surface and subsurface investigations.
CO5	Use all the geological knowledge in design and construction of major civil engineering structures, in addition to mitigating geological hazards such as earthquakes, landslides and Tsunami that affect civil engineering structures.

BL – Bloom's Taxonomy Levels

(L1-Remembering, L2-Understanding, L3-Appling, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A(10x2=20Marks)

(Answer all Questions)

Q.No.	Questions	Marks	CO	BL
1	Draw and label the internal structure of the earth.	2	CO1	L2
2	Define the term 'weathering'.	2	CO1	L1
3	How the mineral harness examined?	2	CO2	L3
4	List the rocks used in construction industry.	2	CO2	L2
5	Diagrammatically represent the strike and dip of rock beds.	2	CO3	L2
6	What is the purpose of conducting 'Point Load Testing' for rock materials?	2	CO3	L3
7	What is Remote sensing?	2	CO4	L4
8	List the geophysical survey methods used in Civil Engineering.	2	CO4	L3
9	Write the dam types.	2	CO5	L1
10	What is subsidence?	2	CO5	L2

PART- B(5x 13=65Marks)

(Restrict to a maximum of 2 subdivisions)

Q.No	Questions	Marks	CO	BL
11 (a)	Elaborate the landforms developed due to river processes..	13	CO1	L2
OR				
11 (b)	Describe the physical and chemical weathering on rocks. What are the factors controlling the rate of weathering?	13	CO1	L2

12 (a)	Write the details of diagnostic properties of minerals.	13	CO2	L3
OR				
12 (b)	Explain on the properties of the following rocks: i) Basalt ii) Quartzite iii) Limestone iv) Sandstone	13	CO2	L3
13 (a)	Discuss in detail about the fold structures in a rock and their effect on Civil engineering constructions.	13	CO3	L3
OR				
13 (b)	Enumerate on Rock Mass Rating and Rock Quality Designation of rocks and their engineering significance.	13	CO3	L3
14 (a)	Explain on Remote sensing techniques and its applications in Civil Engineering.	13	CO4	L4
OR				
14 (b)	Discuss how Seismic reflection survey is useful in identification of depth to bedrock.	13	CO4	L4
15 (a)	Write the role of geology in selection of sites for Tunnel constructions.	13	CO5	L4
OR				
15 (b)	Discuss the factors and controlling measures of coastal erosion.	13	CO5	L4

PART- C(1x 15=15Marks)
(Q.No.16 is compulsory)

Q.No.	Questions	Marks	CO	BL
16.	Elucidate the causes, types of Landslides. Describe with neat diagrams of civil structures to prevent landslides..	15	CO5	L5

