Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APRIL/MAY 2025

CIVIL ENGINEERING
II Semester
GY23C01-ENGINEERING GEOLOGY
(Regulation 2023)

Time:3hrs Max.Marks: 100

CO1	Understand the internal structure of earth and its relation to earthquake, volcanism and the various geological agents.
CO 2	Have better understanding of the role of minerals in engineering properties of construction materials and foundation rocks. Will also realize the importance of rocks as construction materials, foundation and road aggregates
CO 3	Appreciate the role of geological structures in the design and construction of major civil engineering projects such as dams, tunnels, bridges, roads, airport and harbours, apart from learning the significance of engineering properties of rocks
CO 4	Gain knowledge on the role of geological mapping, remote sensing and geophysics for surface and subsurface investigations. In addition, the student will also gain knowledge on bore hole logging methods and their applications
CO 5	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-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A(10x2=20Marks)
(Answer all Questions)

Q.No	Questions	Marks	CO	BL
1	Draw the internal structure of the earth.	2	CO1	L1
2	What are the landforms developed by wind erosion?	2	CO1	L2
3	List few names of Potash feldspar minerals.	2	CO 2	L1
4	Write the classification of sedimentary rocks with examples.	2	CO 2	L2
5	Draw a Normal Fault structure and show its parts.	2	CO 3	L2
6	What is Slag Durability Test?	2	CO 3	L1
7	Which are the elements of aerial photography?	2	CO 4	L4
8	Give the engineering applications of seismic survey.	2	CO 4	L3
9	Which is the suitable site where arch dams can be constructed?	2	CO5	L4
10	How subsidence occurs?	2	CO5	L3

PART- B(5x 13=65Marks)

(Restrict to a maximum of 2 subdivisions)

Q.No	Questions	Marks	CO	BL
11 (a)	Describe on weathering of rocks and its types. Add a note on weathering grade and its significance.	13	CO1	L3
	OR			
11 (b)	What are the types of river erosion? Write various landforms due to river erosion.	13	CO1	L3
12 (a)	Write short notes on the following physical properties of minerals: i) Lustre ii) Cleavage iii) Fracture iv) Hardness	13	CO2	L2
	OR			
12 (b)	Classify the rock types. Explain the structures in Igneous and Sedimentary rocks.	13	CO2	L2
13 (a)	Discuss in detail about the origin and types of Fold structures in a rock and their effect on Civil engineering constructions.	13	CO3	L4
	OR			
13 (b)	Explain on the followings: i) RQD ii) Q-Number System iii) UCS iv) Tensile Strength Test	13	CO3	L4
14 (a)	Write in detail on the principles and applications of Remote sensing techniques in Civil Engineering.	13	CO4	L4
	OR			
14 (b)	Discuss how electrical resistivity survey is useful in identification of depth to bedrock.	13	CO4	L4
15 (a)	Classify the Dams and write the role of geology in selection of sites for Dam constructions.	13	CO5	L4
	OR			
15 (b)	Discuss different types of tunnels and how the geological structures affect tunneling	13	CO5	L4

PART- C(1x 15=15Marks)

(Q.No.16 is compulsory)

Q.No	Questions	Marks	CO	BL
16.	How Landslides occurs? Classify its types and describe the remedial measures to prevent landslide hazards.	15	CO5	L5