



R22 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

Subject code: 4E4AA

B.Tech IV Semester Regular Examinations, July 2024

**ENGINEERING GEOLOGY
(CIVIL ENGINEERING)**

Maximum Marks: 60

Date: 18.07.2024

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		CO	Bloom Tx
1.a)	What is meant by spheroidal weathering?		
b)	Why petrology is important in civil engineering construction?	1	L2
c)	Why the study of minerals important in Civil engineering?	1	L2
d)	What is the difference between Cleavage and fracture	2	L2
e)	How would you differentiate the Plutonic rock and Volcanic rock	2	L2
f)	List the various Structures of Igneous Rocks	3	L2
g)	What is the difference between True Dip and Apparent Dip?	3	L2
h)	Which regions are falls under the earthquake Zone -V in India	4	L2
i)	List the types of Dams by Structure	4	L2
j)	How would you say folds are plays an important role in tunneling	5	L2

Part-B

Answer All the following questions.

(5X10M=50Marks)

			Bloom Tx level
2	a. How would you explain the significance of engineering geology pertaining to civil engineers in working site? [5]	1	L2
	b. Explain the role of physical factors in the process of rock weathering. [5]	1	L2
OR			
3	a. Explain with case study about the failure of civil engineering constructions due to geological draw backs? [5]	1	L2
	b. What could happen by the process of weathering in Granite. Explain it? [5]	1	L2
4	a. Explain the physical properties of Muscovite and Kyanite? [5]	2	L2
	b. Explain the following properties pertaining to minerals	2	L2
	i) Streak ii) Lusture iii) Degree of Diaphaneity [5]		
OR			
5	a. Explain how optical properties and x-ray analysis studies were useful in identification of the minerals? [5]	2	L2
	b. Explain the physical properties of Hematite and Bauxite? [5]	2	L2

6	a. Explain how igneous rocks have been classified based on silica percentage. [5]	3	L2
	b. Explain why dykes & sills are important in civil engineering. [5]	3	L2
OR			
7	a. Explain the following structures of igneous rocks with a neat sketch. i) Vesicular Structure ii) Amygdaloidal Structure [5]	3	L2
	b. Explain what are the megascopic and microscopic characters of limestone. [5]	3	L2
8	a. How would you describe the strike & dip with a neat sketch? [5]	4	L2
	b. Explain briefly the principle, parameters, methods and their applications of electrical resistivity method. [5]	4	L2
OR			
9	a. Illustrate the symmetrical and asymmetrical folds with a neat sketch. [5]	4	L2
	b. Explain what preventive measures to be take into consideration for constructions of buildings in seismic zones. [5]	4	L2
10	a. Analyze the reasons for failure of St' Francis dam and Tigra dam? [5]	5	L4
	b. Explain briefly what are the geological considerations to be take into account during tunneling. [5]	5	L2
OR			
11	a. Explain what do you understand by water tightness of the reservoir. [5]	5	L2
	b. Classify Dams and How do you select a site to construct a dam? Explain. [5]	5	L3