

Paper Id: **910201**

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B.TECH.
(SEM V) THEORY EXAMINATION 2019-20
GEOENVIRONMENTAL ENGINEERING

Time: 3 Hours**Total Marks: 70****Note: 1. Attempt all Sections. If require any missing data; then choose suitably.****SECTION A**

1. **Attempt all questions in brief.** **2 x 7 = 14**

a.	Write the scope of geoenvironmental engineering.
b.	What are the importance of soil physics?
c.	What are the different types of clay minerals?
d.	Define unsaturated soil.
e.	What do you mean by waste containment?
f.	What are the risk of contaminated site?
g.	Write principles of centrifuge modeling.

SECTION B

2. **Attempt any three of the following:** **7 x 3 = 21**

a.	Describe multiphase behavior of soil with neat sketch.
b.	What are the fundamental units of clay minerals ? explain with neat sketch.
c.	Explain the necessity of source reduction waste contaminate.
d.	Give the block diagram of a leachate treatment system and name all the units.
e.	Discuss 'Source Reduction Techniques' for a city of population 5 lakh.

SECTION C

3. **Attempt any one part of the following:** **7 x 1 = 7**

(a)	Describe sources of ground contamination? And explain any one of them.
(b)	What are the effects of ground contamination on the environment? Describe

4. **Attempt any one part of the following:** **7 x 1 = 7**

(a)	Write the concept of double layer in details.
(b)	Describe in detail the methods of collection system with flow diagram for the waste contamination

5. **Attempt any one part of the following:** **7 x 1 = 7**

(a)	How you will be select site for waste contamination? Explain
(b)	Describe the remediation methods for soil contamination.

6. **Attempt any one part of the following:** **7 x 1 = 7**

(a)	Describe the property evaluation for checking soil suitability for waste contamination.
(b)	Explain in detail risk assessment of contaminated site in brief.

7. **Attempt any one part of the following:** **7 x 1 = 7**

(a)	What do you understand by contamination analysis? Write contamination Risk Assessments.
(b)	Describe in detail geotechnical centrifuge modeling . Write the scaling laws of centrifuge modeling.