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Total No. of Pages : 01

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M.Tech. (Civil Engineering) / (Geotechnical Engineering) (Sem.–1)

ENVIRONMENTAL GEOTECHNOLOGY

Subject Code : MTGT905-18

M.Code :93275

Date of Examination : 25-01-23

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.

2. Each question carries TWELVE marks.

1. Explain in detail the various contaminant retention and transport mechanisms in soil. What are the important data required for planning contaminated site remediation?
2.
 - a) What are the factors governing soil pollutant interaction?
 - b) Explain with neat sketch the water cycle and its interaction with the environment.
3.
 - a) What do you mean by MoEF guidelines? Explain its purpose.
 - b) Mention the various processes in soil structure interaction.
 - c) Explain in brief the significance of mineralogy in determining the soil behaviour.
4.
 - a) Explain with neat sketch the various components of a sanitary landfill and its functions.
 - b) What is leachate? How the quantity can be estimated?
5. Predict the fate of contaminants in subsurface soil by explaining the soil-water contaminant interaction.
6.
 - a) Explain how the characterization and identification of contaminated ground soil is done.
 - b) Explain in detail the exsitu and insitu remediation of contaminated soils.
7. **Describe the effects of pollutants in soil on :**
 - a) Index properties
 - b) Volume change behaviour
 - c) Shear strength.
8. **Write short notes on :**
 - a) Diffuse double layer Model
 - b) Theories of ion exchange.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.