

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (CE) (Sem.-6)
GEO ENVIRONMENT ENGINEERING
Subject Code : PECE-602E-18
M.Code : 79398
Date of Examination : 05-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Enlist the natural and anthropogenic sources of soil contamination.
- b) Enlist the Engineered landfill types based on site topography.
- c) Sketch the Non-Engineered Waste Dump.
- d) Differentiate between Ex situ and In situ Bioremediation.
- e) Differentiate between hazardous and non-hazardous waste.
- f) What are the applications of geosynthetic in a landfill?
- g) List out different sampling techniques for contaminated soil.
- h) What are the components of landfill gas?
- i) What is geomicrobiosphere?
- j) Explain by neat sketch the term '*vadose zone*'.

SECTION-B

2. What are the various sources of groundwater contamination? Explain the impact of Flouride and Arsenic in detail.
3. Compare the various thermal processes used in hazardous solid waste treatment.
4. Explain how Atterberg and Shear strength of soil varies due to soil contamination.
5. Propose a basic dispersion model to understand the solute transport in groundwater system.
6. Write a short note on advective and dispersive transport mechanism.

SECTION-C

7. Illustrate the pathways of generated leachate from Municipal Solid Waste (MSW) with help of neat sketch. Explain the environmental consideration in safe disposal of leachate.
8. Explain in detail the various contaminant retention and transport mechanisms in soil. What are the important data required for planning contaminated site remediation?
9.
 - a) Explain the adverse health and environmental impacts due to improper handling of solid waste.
 - b) List out the factors to be considered while deciding collection efficiency in a Solid Waste Management system.

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