## COURSE CODE: GTEENVI

COURSE TITLE: Geo-environmental Engineering

DEPARTMENT: Civil Engineering

## TEXTBOOKS:

Townsend, T. G., Powell, J., Jain, P., Xu, Q., Tolaymat, T., & Reinhart, D. (2015). Sustainable Practices for Landfill Design and Operation. In Sustainable Practices for Landfill Design and Operation. Springer.

Yong, R. N., Mulligan, C. N., & Fukue, M. (2014). Sustainable Practices in Geoenvironmental Engineering. In Sustainable Practices in Geoenvironmental Engineering, Second Edition. CRC PRess.

Qian, X., Koerner, R. M., & Gray, D. H. (2002). Geotechnical Aspects of Landfill Design and Construction. Prentice Hall.

## READING LIST:

- Geo-Environmental Engineering and Environmental Geotechnics
- Approaches to Sustainable Development
- Integrated Municipal Solid Waste (MSW) and Managing Contaminated Sites
- Traditional Barriers and Innovative Barriers
- Basic Information, Volume and Area Calculation, Design of Slopes
- Volumetric Capacity, Useful Life and Design of Canal, Leachate Generation and Daily Cell
- Site Considerations, Location Restrictions and Siting Process
- Site Investigation, Field Tests and Laboratory Tests
- Site Considerations, Location Restrictions and Siting Process
- Compacted Clay Liners and Geosynthetic Clay Liners
- Geomembranes, Landfill Covers
- Liquid Drainage Design and Landfill Settlement
- Landfill Stability and Analysis
- Construction of Compacted Clay Liners and Installation of Geosynthetic Materials
- Post-closure Uses of MSW Landfills