

## EVS 604 Clean Technologies

(Credits: 04)

**OBJECTIVE:** To impart knowledge of technologies that avoid waste generation, re-building clean environment and utilize the environment- decay promoting substances

### Syllabus

**Environment and Technology:** The problem; Remedial technologies; contaminated site management; Attenuation

**Clean Technologies:** Waste water treatment; Sludge management; Solid wastes management; Waste gases treatment

**Ecological Sanitation:** Treatment of human excreta and grey water

### SUGGESTED READINGS

*Biofuels for Fuel Cells: Renewable Energy from Biomass Fermentation- P.Lens, P.Westermann, M. Haberbauer and A. Moreno (eds.), IWA Publishing, Swedon.*

*Clean Technology- A. Johansson, Lewis Publishers, Boca Ratan.*

*Design for Environment- T.E. Graedel and B.R. Allenby, Prentice-Hall, New Jersey.*

*Environmetnal Microbiology- E.L. Madsen, Blackwell Publishing, London.*

*Green Chemistry: Theory and Practice- P.T. Anastas and J.C. Warner, Oxford University Press, New York.*

*Introduction to Environmental Engineering- R.O. Mines and L.W. Lackey, Pearson College Division. Introduction to Environmental Engineering Science- G.M. Masters and W.P. Ela, Pearson College Division. Microbial Diversity and Biosprospecting – A.T. Bull, ASM Press, Washington, DC.*

*Microbial fuel cells: Novel Biotechnology for energy generation- K. Rabacy and W. Verstraete, Trends in Biotechnology 23 (6): 291-298*

*Physico-chemical Treatment of Water and Wastewater- G.A. Sincero, IWA, Publishing, Swedon. Sludge into Biosolids- L. Spinosa and P.A. Vesilind, IWA Publishing, Swedon.*

*Sludge Reduction Technologies in Wastewater Treatment Plants- P. Folabori, G. Andreotola and G. Ziglio, IWA Publishing, Swedon.*