**Registration no:** | | | | | | | | | | |

**Total Number of Pages: 02** **B.Tech**
**HSSM3402**

# 8th Semester Regular / Back Examination 2015-16
## ENVIRONMENTAL ENGINEERING
### BRANCH: CSE, FASHION, FAT, IT, ITE, MECH, METTA, MME, TEXTILE
### Time: 3 Hours
### Max Marks: 70
### Q.CODE: W126

**Answer Question No.1 which is compulsory and any five from the rest.**
**The figures in the right hand margin indicate marks.**

**Q1** **Answer the following questions:** **(2 x 10)**

**a)** What do you mean by super adiabatic condition of atmosphere?
**b)** Write four air pollution meteorological factors?
**c)** Differentiate between incineration and pyrolysis?
**d)** What are coagulants?
**e)** Write the techniques for waste reduction?
**f)** Write the inorganic chemical properties of water?
**g)** What are pathogens? Write the name of two important water- borne diseases common to man?
**h)** Enlist four Indian environmental laws?
**i)** What is BOD/COD relationship in a sample of wastewater?
**j)** Differentiate between evaporation and evapo –transpiration?

**Q2** **a)** What is temperature Profile Diagram of the Atmosphere? Explain it with the diagram? **(5)**
**b)** Draw the flow diagram of Waste Minimization (WM) Technique? **(5)**

**Q3** **a)** What is Break Point Chlorination? What is the advantage & Disadvantage of use of chlorine as disinfectant? **(5)**
**b)** What is the source receiver & path concept of control of noise pollution? **(5)**

**Q4** What is Life Cycle Assessment (LCA).Explain various Stages of LCA? How it is different from Environmental Impact Assessment (EIA)? **(10)**

[PTO]

**Q5** **a)** What are the Various Classes of Water & the selection of Treatment processes? Draw the flow chat diagram for standard water treatment? **(5)**

**b)** Design an Electrostatic Precipitator to handle a quantity of 50 $m^3$/s of air from a manufacturing industry. It contains the particles whose settling velocity is 0.12 m/s. If 99% removal efficiency is required, calculate the Plate area of the ESP. **(5)**

**Q6** **a)** What is Environmental Gradient? Draw the Universal tolerance curve for different levels of environmental factors? **(5)**

**b)** Calculate the Mean sound power level of four sound power levels of 38dB, 51dB, 68dB & 78dB? **(5)**

**Q7** **a)** Discuss the atmospheric stability conditions in comparison with Ambient Lapse Rate (ALR) & Dry Adiabatic Lapse Rate (DALR)? **(5)**

**b)** 15 ml of a waste water sample was diluted in 300ml of BOD bottle. Initial DO was 8.9 mg/l, final DO after 5 days 4.4mg/l. Corresponding initial & final DO sample of dilution water was 9.1mg/l & 9.05mg/l. Find 5 day BOD? **(5)**

**Q8** **Write short notes on any two:** **(5 x 2)**

**a)** SRT & HRT

**b)** Oxygen sag curve

**c)** Municipal solid waste landfills (MFWLFs)

**d)** Environmental Audit

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