BE – VIII – R2015 | CBSGS – Chem – EE – 02/12/16 – 11–2

Q.P. Code : 729400

(3 Hours) [Total Marks : 80

N.B. : (1) Question no. **1** is **compulsory**.
(2) Attempt any **three** of the remaining questions.
(3) **Figure** to the **right** indicates **full** marks.

1. Write short notes
   (a) Acid Rain **5**
   (b) Noise pollution **5**
   (c) Plume behavior **5**
   (d) Nitrogen cycle **5**

2. (a) Classify the air pollutants and what are their effects on human beings. **10**
   (b) Explain DO Sag Curve and derive equation for Critical Oxygen Deficit. **10**

3. (a) An oil pipeline leak results in emission of 100g/h of H_2S. On a very sunny summer day, with a wind speed of 3m/s, what will be the concentration of H_2S 1.5 km directly downwind from the leak? **10**
   Given: $\sigma_y = 210m$,: $\sigma_z = 160m$
   (b) Discuss in brief source correction method for air pollution control. **10**

4. (a) Explain in brief the "Chemical Precipitation" for phosphorous removal from waste water. **10**
   (b) Classify the water pollutants. Explain any two in detail. **10**

5. (a) Discuss in brief and derive equation for DALR and WALR. **10**
   (b) Discuss in brief plastic waste management **10**

6. (a) Following BOD Test was carried out in Laboratory and Results are tabulated as follows : **10**

Time (Day)	0	1	2	4	6	8
BOD (mg/lit)	0	65	109	138	158	172

   Determine : (i) reaction rate Constant (ii) Ultimate BOD
   (b) Discuss the Electrostatic precipitator in detail. **10**