PONDICHERRY ENGINEERING COLLEGE, PUDUCHERRY- 605014
(An Autonomous Institution)
B.TECH DEGREE EXAMINATION, APRIL/ MAY 2015
First Year- common to All Branches Semester: II
CY102- ENVIRONMENTAL SCIENCE

Time: Three Hours
Maximum: 60 Marks

Answer ALL Questions

Part- A (5x2=10 marks)
i. What is meant by biodiversity hot spot? Mention one region in India.
ii. What is Fly ash?
iii. Define BOD. Compare with COD value.
iv. A molecule absorbs radiation of frequency $3 \times 10^{14}$ cps. What is the energy difference between the molecular energy states involved? (Plank’s Constant= $6.626 \times 10^{-34}$ Js)
v. Define sustainable development.

Part- B (5x8= 40 marks)
1. (a) Should we build big dams? Give reasons in favour of your answer. (5)
   (b) Differentiate National Parks and Wildlife Sanctuaries. (3)

   OR

2. Briefly explain ecological Pyramids

3. Analysis of polluted air in a city shows the presence of NO$_x$, O$_3$ and PAN. Discuss the cause, effect and control measures of the above case.

   OR

4. Discuss the major environmental phenomenon in the stratospheric layer of Polar Regions.

5. Give a detailed report on the solid waste management.

   OR

6. Discuss the cause and effects of Mercury and Lead metal pollution.

7. Write the principle and experimental technique involved in the estimation of CO by Non dispersive IR analysis.

   OR

8. Briefly describe the components of an Atomic Absorption Spectrophotometer.

9. As an Individual what will be your role in protecting our environment?

   OR

10. a) Mention the basic principles of Green chemistry. (5)
    b) The reaction between one mole of propene and one mole of Bromine gives one mole of 1,2- Dibromo propane. What is the percentage atom economy of the reaction? (3)

   PART – C (1x10=10 marks)


   OR

12. a) Explain Beer- Lambert’s Law. (7)
    b) A KMnO$_4$ solution at the wavelength of maximum absorption gave an absorbance value of 1.236 in a 10mm cell. The Mn concentration is 30 mg.dm$^{-3}$. (Atomic weight of Mn 54.94). Calculate the molar absorptivity. (3)