# B. E. (All Branches) Part I 1st Semester Examination, Dec. 2012

## Environment and Ecology (CE 101)

**Full Marks: 35** **Time: 2 hours**

Answers should be brief and to the point.
Answer question no **1(ONE)** and any **FIVE (5)** from the rest.

1. (a) To which category the 'water resource' belongs? Justify your answer.
   (b) State different types of biodiversity.
   (c) What are the impacts of 'Fluoride' on human health? What is the permissible limit of it in drinking water as per IS: 10500?
   (d) How some gases cause an increase of global temperature? Name three such gases.
   (e) Discuss the concept of equivalent noise level.

(2x5=10)

2. Write the importance of 'Ozone layer' in the stratosphere. Discuss the role of CFCs for depletion of ozone layer. Mention the adverse effects of any one of the air pollutants on human, plants and materials.

(1+2+2=5)

3. Why biomass decreases at higher tropic levels of the food chain? Define 'Bio-magnification' and mention its effect.

(2½+2½=5)

4. Why the COD of a wastewater sample is higher than its BOD value? Why *E. coli* is known as 'indicator bacteria' in water quality assessment? Write the occurrences and health impacts of 'Arsenic' in groundwater.

(1½+1½+2=5)

5. What are the problems caused by the 'turbidity' of water? How the turbidity of water can be removed in water treatment plants? What is hardness of water and what are the problems associated with it? What is disinfection?

(1+1+2+1=5)

6. How 'photochemical smog' is formed? What is acid rain? How is it formed in the atmosphere? What are the adverse effects of acid rain?

(1½+1+1½+1=5)

7. Classify the air pollutants based on their origin. Give examples of each category. Discuss about any two devices used for control of particulate matter emissions.

(1+1+3=5)

8. What are the problems associated with open and careless dumping of municipal solid wastes? Discuss about any two disposal methods of municipal solid waste.

(1+4=5)

9. Define different 'noise levels'. The sound pressure emitted from a source is 1 Pa. What is the pressure level? Determine the resultant noise level generated simultaneously from three sources with intensity 75, 55 and 90 dB respectively.

(2+1+2=5)

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