2/11/18

INDIAN INSTITUTE OF ENGINEERING SCIENCE AND TECHNOLOGY, SHIBPUR

B. Tech. (Civil Engg.) 7th SEMESTER FINAL EXAMINATION, November 2018

Environmental Management (CE 731/4)

Full Marks: 70 **Time: 3 hrs**

Answer any 5 (five) questions.

1. Comment on the effect of industrial revolution towards environmental pollution. Define the terms 'industrial waste' and 'pollution prevention'. Briefly highlight on 'pollution prevention hierarchy' with the conceptual diagram. What is the role of recycling on pollution prevention?

(3+4+4+3=14)

2. Define 'Poly-aromatic hydrocarbon' and draw its typical molecular structure. What are the possible sources of generation of 'Cadmium' and 'Cyanide'? Write the general mechanism of 'transformation' of the contaminant in the environment. What do you understand by 'Langmuir' 'Isotherm' used in the analysis of adsorption?

(4+4+3+3=14)

3. Comment on the characteristics and adverse effects of SO_2. Define 'Photochemical oxidants' with suitable examples. Write the causes and detrimental effects of 'Acid rain'. Briefly highlight on the outcome of 'Kyoto Protocol'

(3+4+3+4=14)

4. Discuss about different types of solid wastes generated from the source other than municipal activity. Briefly highlight on the merits and demerits of an incinerator. What are the special characteristics of 'hazardous waste'? Comment on the role of fossil fuels as a source of energy.

(4+4+3+3=14)

5. What do you understand by 'regulatory process' for environmental management? What is the relevance of 'International environmental laws' under present scenario? Briefly discuss about the Air Act (1981), which is in force under Indian context. What should be the regulatory process to implement all the environmental laws in Indian scenario?

(4+3+4+3=14)

6. What is the purpose of 'Life-cycle assessment'? Briefly highlight on the general methodology of 'life-cycle assessment'. Specify the scope of various components of 'life-cycle assessment' with a conceptual diagram. How can you streamline the 'life-cycle assessment' process?

(3+4+4+3=14)