

1/12/17

INDIAN INSTITUTE OF ENGINEERING SCIENCE AND TECHNOLOGY, SHIBPUR
B. Tech. (Civil Engg.) 7th SEMESTER FINAL EXAM., December 2017
Under 5-Year Dual Degree (B.Tech.- M.Tech.) Programme
Environmental Management (CE 731/4)

Full Marks: 70

Time: 3 hrs

Answer any 5 (five) questions.

1. What do you understand by 'pollution prevention'? Define the terms 'source reduction', 'waste reduction', 'recycling' and 'reclamation'. Differentiate between 'environmental sustainability' and 'economic sustainability'. Briefly highlight on 'environmental ethics'.
(3+4+4+3=14)
2. Define 'Poly-chlorinated biphenyle' and draw its typical molecular structure. What are the possible sources of generation of 'Chromium' and 'Lead'? How do the 'transport' and 'transformation' of the contaminant take place in the environment? Briefly discuss about different types of 'Isotherm' used in analysis of adsorption.
(4+4+3+3=14)
3. How does the 'industrial activity' affect the environment? What are the causes of 'Global warming'? Briefly highlight on the main focus of the 'KYOTO Protocol'. Explain the mechanism of 'Ozone depletion' with relevant reactions.
(3+4+3+4=14)
4. Comment on the sources and composition of municipal solid wastes (MSW). Briefly highlight on the mode of function of a sanitary landfill. What do you understand by 'Minamata disease'? Name various sources of energy available in the environment.
(4+4+3+3=14)
5. Write the scope of 'Environmental regulations'. What are 'International environmental laws' available under present scenario? Briefly discuss about the environmental regulations, which are in force under Indian context. What should be the regulatory process to implement all those environmental laws?
(4+3+4+3=14)
6. What is 'Life-cycle assessment'? How the 'life-cycle assessment' and 'regulatory process' is interrelated? Briefly discuss about the components of 'life-cycle assessment' with a conceptual diagram. Comment on the application areas of 'life-cycle assessment'.
(3+4+4+3=14)