Minor I CVL100: Date: 01/09/2015; Time: 60 minutes; Maximum Marks: 100

Q1. Glucose from water can be economically removed using:

i. Filtration
ii. Sedimentation
iii. Biological processes
iv. Disinfection

[5]

Q 2. What is the role of alkalinity in natural systems like rivers and lakes? What is its source? [10]

Q. 3. Support this statement that Henry's Law is quite important for the health of the rivers. [5]

Q. 4. Explain the plan with justifications for making the IIT hostels zero liquid discharge hostels. [10]

Q. 5 Analysis of sewage from Kumaon hostel reveals that it contains 120 mg/L carbohydrates, 45 mg/L fine sand, 90 mg/L salts, 34 mg/L bacteria, 29 mg/L Urea, Find out Total Dissolved Solids, Total Volatile Solids, Total Volatile Dissolved Solids, TKN, and total organic dissolved substances. [10]

Q. 6 In India, Central Pollution Control Boards, Ministry of Environment and Forests, and State Pollution Control Boards are some of the agencies responsible for the pollution control. In such a strong state controlled pollution control regimes justify the utility of ISO14000. [10]

Q. 7 What do the ISO1400 apply and what does the ISO14000 series cover? [10]

Q. 8 With the help of a flow chart/block diagram, explain the physical interaction of industrial activities with the environment. [10]

Q. 9 Explain major mechanisms of carbon sequestration in the carbon cycle. Your answer should include relevant chemical equations and estimated quantities of carbon through each step. [10]

Q. 10 What is the effect on global temperature of doubling the atmospheric concentration of carbon dioxide? [10]

Q. 11 Draw a line diagram to present various carbon fluxes in the environment. Your answer should included quantity of carbon in various fluxes in terms of Gigatons. [10]