1. (60 p) Establish a flow-chart for the treatment of raw water containing 200 mg/L NTU, 0.4 mg/L Fe and 0.05 mg/L Mn. Please use **Auto-CAD** to draw your flow-chart.
2. (40 p) Name a treatment technology that is commonly used to remove or transform each of the following species

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| **Parameter** | **Treatment technology** |
| Giardia Cysts from water |  |
| Turbidity from drinking water |  |
| Cyanide from drinking water |  |
| Suspended particles in the diameter range 5-20 µm from drinking water |  |
| Barium from drinking water |  |
| Methane from drinking water |  |
| Disinfection by-products (THM) from chlorine disinfection of drinking water |  |
| Manganese ion from groundwater |  |
| Lead (II) from drinking water |  |
| Phosphate from drinking water |  |