3-4, the conveyor. Two conveyor systems are being studied for use in a manufacturing operation. System X has a first cost of $80,000, annual costs estimated at $25,000, and a service life of 3 years. System Y has a first cost of$135,000, annual costs that begin at $20,000 in the first year and increase by $5000 each year thereafter, a service life of 6 years, and an estimated salvage value of $40,000. Using an i of8%, determine which alternative should be chosen.

3-7, the dam. Two types of water impoundment reservoirs are being considered. The first would have a construction cost of $6,500,000, an annual maintenance cost of$300,000, a life that is assumed to be infinite, and periodic major upgrade costs of $1,000,000 every fifteen years beginning in the fifteenth year of life. The other would cost $5,000,000 to build, would last an estimated 30 years with no salvage value, and would have annual maintenance costs of$550,000. Using an i of 6%, determine the equivalent annual cost of each. If both can provide the same capability to impound water, which should be chosen?