

### **Conventional Landscape Irrigation**

1. What is the difference between static and dynamic water pressure?
2. Why should you NOT use the static pressure of the city's water main to determine which sprinklers to use?
3. What are the two pieces of critical information concerning water supply that a designer needs to start designing an irrigation system, and why are they important?
4. Why should you avoid mixing different types of sprinkler heads together on the same valve?
5. How can a designer determine the daily watering time (in minutes) each circuit will need to satisfy the weekly irrigation requirement for the irrigation layout?
6. Why would a designer specify a mainline pressure reducer?
7. Why do you size the ground the same size or larger than the control wire?

### **Low-Volume Landscape Irrigation**

1. What are the advantages and/or benefits of low-volume irrigation compared to conventional irrigation?
2. Why is it important to know the soil type in low-volume irrigation design?
3. When designing a low-volume irrigation system, which set of

plants do you design for and why?

4. Will the plants NOT covered in #3 be under- or over-watered, and how do you get the water requirement for those plants to them?

### **Surveying**

1. Describe the 5 columns used in field notes.
2. How do you make sure that you did not make a mistake during surveying?
3. Describe the differential leveling procedure.

### **Flow Measurement**

1. Describe the different types of weirs.
2. Describe the devices that are used to measure flow in pipes.
3. Why is flow measurement important?
4. When would you use a flume and when would you use a weir?

### **Water Supply**

1. What are the different types of pumps used for irrigation, and what is the most appropriate application for each?

2. What are the major sources of water for irrigation and how are they utilized?
3. Define/describe the riparian doctrine.
4. Define/describe the doctrine of prior appropriation.

### **Soil-Water Relations**

1. Describe how farmers determine the amount of available water in the soil.
2. Describe 4 methods that are used to determine soil-water content.
3. Why does the MAD vary between crops?

### **Evapotranspiration**

1. What are the advantages and disadvantages of the Blaney-Criddle, Penman, and Jensen-Haise methods for estimating evapotranspiration?
2. Describe how pan coefficients and crop coefficients are used.
3. What is the relationship between ET and irrigation scheduling?

### **Irrigation Principles**

1. Describe the different types of irrigation methods.
2. Why is leaching required?

3. What do you need to know in order to calculate the irrigation requirement?

### **Agricultural Surface Irrigation**

1. Why do level basins require high flow rates?
2. When are zero furrow slopes a good practice?
3. What conditions are best suited to surface irrigation?

### **Agricultural Sprinkler Irrigation**

1. Name the types of sprinkler systems and describe their function.
2. Name the components of sprinkler systems and describe their function.
3. Discuss the factors that influence sprinkler system application uniformity.

### **Agricultural Drip Irrigation**

1. When would drip irrigation be superior to sprinkler or surface irrigation?
2. Why are chlorine and acid injected into drip irrigation systems?
3. What is the difference between a laminar flow emitter and a pressure-compensating drip emitter?

## **Water Quality and Soil Salinity Management**

1. State four common water quality related problems you may encounter in the field. Pick one of these problems and briefly describe how you might have to change management practices to deal with the problem.
2. List the different types of amendments used for reclaiming sodium-affected soils. Which are direct and indirect suppliers of calcium?
3. What factors should be considered when using saline water for irrigation?
4. What factors contribute to a buildup of salts in a field under irrigated conditions?