Appendix E: Example Exam Questions—Type A

EXAMPLE PROBLEMS

1. You have just irrigated a 20-acre field with 200,000 gallons of wastewater. What application depth (inches) did you apply?
   a. 0.25 in.
   b. 7.4 in.
   c. 0.37 in.
   d. 2.7 in.

2. Your lagoon analysis results show 2.5 pounds of plant-available nitrogen (PAN) per 1,000 gallons. If you irrigate 40,000 gallons, how many pounds of PAN have you applied?
   a. 25 lb
   b. 100 lb
   c. 100,000 lb
   d. 160 lb

3. What travel speed (inches per minute) should you select on a traveling gun if you have the following situation: flow rate is 200 gpm, lane spacing is 250 feet, and you wish to apply 0.6-inch depth of wastewater application?
   a. 15 in./min
   b. 26 in./min
   c. 2.5 in./min
   d. 9.2 in./min

4. Using Table 5-7 for stationary big guns, if you have a 1.0-inch nozzle that operates at 90 psi, what is the flow rate (gpm) and wetted diameter from your equipment?
   a. 50 gpm, 205-ft dia
   b. 275 gpm, 365-ft dia
   c. 625 gpm, 485-ft dia
   d. 304 gpm, 380-ft dia

5. If you are using a solids spreader, and you apply 1 ton over an area 20 feet by 150 feet, what is your application rate in tons per acre?
   a. 14.5 tons/acre
   b. 290 tons/acre
   c. 7.5 tons/acre
   d. 0.1 ton/acre
6. You operate a solid set irrigation system on a 6-acre field. The system has 24 sprinklers. Each sprinkler runs at 10 gallons per minute. The following information is recorded on your lagoon liquid irrigation field record form (Form IRR-2):

Field size = 6 acres
Start Time = 9:00 A.M.
End Time = 11:15 A.M.

What is the proper number for column 8 (volume per acre irrigated)?

a. 32,400 gal/acre  
b. 240 gal/acre  
c. 1,350 gal/acre  
d. 5,400 gal/acre

7. If your bermudagrass hay crop requires 50 pounds of PAN per ton of hay produced, and your expected yield is 5 tons per acre, how many pounds of PAN per acre should you apply?

a. 250 lb PAN  
b. 55 lb PAN  
c. 10 lb PAN  
d. 500 lb PAN

8. Your wastewater irrigation scheduling should consider which of the following?

a. The cover crop and its stage of growth  
b. The liquid level of the lagoon  
c. The time of year  
d. All of the above

9. If you must remove sludge (solids) from a lagoon or holding tank, you can assume that the sludge has the same nitrogen concentration as the lagoon liquid.

a. True  
b. False

10. You wish to add 500 hogs to your feeder-to-finish operation, which will result in an additional 463,500 gallons of wastewater per year generated. If your waste management plan allows you to irrigate 40,000 gallons of wastewater per acre, per year based on the PAN rate, how many additional acres do you need to handle the additional waste?

a. 11.6 acres  
b. 985 acres  
c. 18.1 acres  
d. 80 acres
ANSWER KEY—TYPE A:

1. c
2. b
3. b
4. b
5. a
6. d
7. a
8. d
9. b
10. a