



**Exam Basics Review  
Treatment and Lagoon Systems  
Grades I & II  
Practice Problems**

*The Division of Water Quality  
makes no claim as the accuracy of  
any answers provided herein.*

**Certification Exam Review**  
**Treatment Grade I & II & Small Lagoon Systems**

**General Questions**

1. Wastewater is treated by two methods in Utah, what are they?

1. \_\_\_\_\_ growth

2. \_\_\_\_\_ growth

2. Wastewater generated by humans is known as what?

3. The strength of wastewater is measured by the BOD test. What does BOD stand for?

B \_\_\_\_\_

O \_\_\_\_\_

D \_\_\_\_\_

4. An other test of wastewater is the TSS test. What does TSS stand for?

T \_\_\_\_\_

S \_\_\_\_\_

S \_\_\_\_\_

5. What is the name for a group of disease causing organisms?

6. What is primary treatment? what is secondary treatment?

7. What are coliforms? why are they tested for?

8. Wastewater is what percent water

## **Gasses**

9. The "rotten egg" smell in sewer is caused by what gas?
10. The term aerobic means \_\_\_\_\_ oxygen
11. The term anaerobic means \_\_\_\_\_ oxygen

## **Biological**

12. Grit, sand, silt and other material that will not decompose are known as?
13. Activated sludge, lagoons, trickling filters and RBCs all are what type of process?
14. What is a facultative organism?
15. A properly operating wastewater treatment plant (activated sludge, trickling filters, RBC) should have what type of smell?

## **Chlorine**

16. If there is a chlorine leak the chlorine will do what?
17. Chlorine is added to wastewater to do what?
18. Where would you put a vent in a chlorine storage building?
19. When chlorine combines with wastewater it forms what acid?

## **pH**

20. pH is measure on a scale from \_\_\_\_\_ to \_\_\_\_\_
21. A pH of 4.5 is acidic or basic?

22. What is a neutral pH?
23. When excess chlorine is added to secondary effluent, does the pH go up or down?

**Treatment types**

24. What is an RBC?

R \_\_\_\_\_

B \_\_\_\_\_

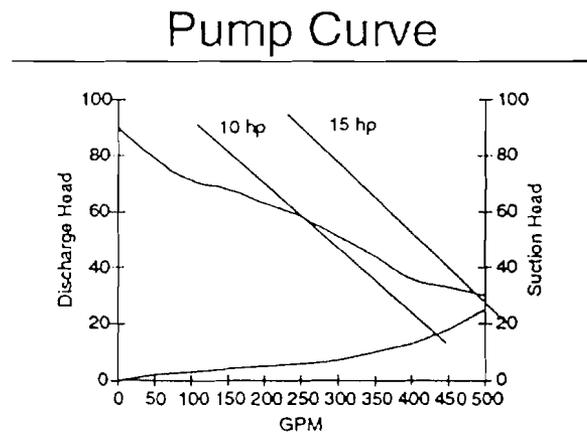
C \_\_\_\_\_

25. What is the area of the treatment that has the bar screens and flow measuring devices?
26. What is another word for primary clarification?
27. There are three degrees of wastewater treatment, what are they?
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
28. What is the first cell in a lagoon system called?
29. There is two ways of de-watering sludge, what are they?
1. \_\_\_\_\_
2. \_\_\_\_\_
30. Two trickling filters are run in series, this is known as a what?
31. An oxidation ditch what type of process?

## Pumps and Pumping

32. If a pump is running well above its design flow, what is happening?
33. If you close the discharge valve on a positive displacement pump, what happens?
34. If you close the discharge valve on a centrifugal pump, what happens?
35. If a centrifugal pump is drawing higher than normal amperage, what is a potential problem?
36. If a centrifugal pump is drawing lower than normal amperage, what is a potential problem?
37. What happens to a centrifugal pump when you increase the speed, if the head remains the same?
38. Given the pump curve to the right

- a. What is the discharge rate against a pressure head of 50 feet?
- b. What is the required horsepower for a discharge head of 50 feet?
- c. What is the maximum suction head against a discharge head of 50 feet?



39. What is cavitation?