**Sludge Management – example of questions**

1. What are examples of physical properties of sludge?
2. What are examples of biological properties of sludge?
3. What are examples of chemical properties of sludge?
4. Criteria for optimal sludge treatment technology.
5. What determines amount of sludge produced during wastewater treatment?
6. What is primary sludge?
7. What property of sludge can characterize „Sludge volume index“ (SVI)?
8. What property of sludge can characterize „Capillary suction time“ (CST)?
9. What is Influence of pH on sludge properties?
10. What are the main sludge pollutants?
11. What is difference between Newtonian and non-Newtonian fluids?
12. What are three main methods of sludge stabilization and what is difference in principle of these methods?
13. Anaerobic digestion advantages and disadvantages.
14. What is principal of autothermal thermophilic aerobic digestion?
15. Chemical stabilization of sludge principals.
16. What are methods of mixing of anaerobic digester?
17. What is the difference between mesophilic, thermophilic and temperature phased anaerobic digestion?
18. What are two major components of biogas and pyrolysis gas?
19. What is main aim of sludge hygienization?
20. What is difference between Class A and Class B sludge hygienization?
21. What indicator microorganisms for sludge hygienization?
22. Main methods of sludge hygienization
23. Main methods of thermal treatment of sludge.
24. What is difference between following methods of thermal treatment of sludge: pyrolysis and gasification.
25. What is difference between wet air oxidation and incineration of sludge?
26. What are the main types of sludge burners?
27. What are benefits of sludge incineration in cement kilns?
28. What type of water we can find in sludge suspension?
29. What are the reasons for sludge thickening application?
30. Compare belt press and centrifuge application for sludge dewatering.
31. What is difference between thickening and dewatering of sludge?
32. What is difference between partial and total drying of sludge?
33. What is “glue phase” during sludge drying?
34. What is sand bed technology, where is beneficial to use it?
35. How to improve biodegradability of sludge.
36. What is aim and principle of Cambi system?
37. What are benefits of sludge disintegration?
38. How can be disintegration efficiency calculated?
39. Main methods of final sludge disposal, advantages and limitations.
40. What are basic strategies for sludge minimization?
41. Provide three specific examples of sludge minimization methods.
42. What are actual trends in sludge disposal in EU?
43. What useful components can be extracted from sludge?
44. Reject water characteristic and treatment.