



Certification Boulevard

Test Your Knowledge of Operations & Utility Management Topics

1. Given the following data, what is the cost of polymer used, in dollars per dry ton processed, in this Belt Filter Press (BFP)?
 - Total sludge feed to the BFP is 144,500 gpd
 - Feed sludge concentration is 2.75%
 - Total neat polymer used is 25 gpd
 - Polymer specific gravity (S.G.) is 1.02
 - Polymer cost is \$0.79 per pound
 - A. \$25.24 / dt
 - B. \$11.50 / dt
 - C. \$16.57 / dt
 - D. \$33.54 / dt

2. Given the data from question No.1, is this an acceptable cost of polymer usage for a Belt Filter Press (BFP)?
 - A. Yes, very efficient
 - B. No, it is way too high
 - C. There is not enough data to calculate this parameter

3. Given the following data, what is the annual budget for lime in this plant?
 - Lime dose rate is 28.5% of the sludge dry weight processed
 - Sludge volume is 149 wet tons per day
 - Sludge cake concentration is 20.5% TS
 - Lime cost is \$120.00 per ton delivered
 - Sludge is processed 5 days per week, 16 hours per day
 - A. \$305,998
 - B. \$271,440
 - C. \$148,594
 - D. \$381,060

4. Given the following data, what is the annual budget for sulfur dioxide at this plant?
 - Plant Flow = 25.6 mgd
 - Preliminary Treatment Chlorine Dosage = 3.5 mg/L
 - Effluent Filtration Chlorine Dosage = 2.0 mg/L
 - Effluent Chlorine Dosage = 4.9 mg/L
 - Effluent Chlorine Residual = 1.5 mg/L
 - SO₂ to CL₂ feed ratio is 1.25:1
 - Complete Dechlorination
 - Chlorine Cost = \$0.17 per Pound
 - Sulfur Dioxide Cost = \$0.22 per Pound

- A. \$25717
 - B. \$24,840
 - C. \$37,589
 - D. \$32,146
5. What is the main purpose for a comprehensive maintenance program?
- A. To give the mechanics something to do
 - B. To operate all of the plant equipment
 - C. To allow the plant to operate at its peak performance
 - D. To repair equipment after breakage
6. What is the system called that requires proper documentation associated with the person who collects samples, the person who receives the samples in the lab, and the lab technician who performs the tests?
- A. Sample performance
 - B. Chain of custody
 - C. Mapping
 - D. Sample journal
7. What are the responsibilities of plant management?
- A. To ensure Operations and Maintenance staff members are trained
 - B. To develop performance data records and reports
 - C. To evaluate and appraise employees
 - D. To develop and control budgets
 - E. To maintain public relations
 - F. All of the above
8. What should be done to protect all personnel when repairs are made to an electrical component?
- A. Inform all personnel in the area that the repairs are being made
 - B. Lock-out the equipment controls
 - C. Tag the equipment controls
 - D. Be trained and understand the OSHA requirements for this procedure
 - E. All of the above
9. Which item of information would not be of major importance if you were developing and presenting a report to your organization's council?
- A. Capital improvement program
 - B. Major equipment maintenance
 - C. O&M costs
 - D. Facility process performance
 - E. Detailed lab procedures

10. Who benefits from the development of a facility annual report?

- A. The governing body
- B. The responsible engineer
- C. The health department
- D. The facility management
- E. All of the above

Please forward your comments and sample questions for publication to:

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