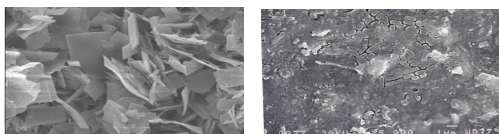


TEST – RO system design & troubleshooting

Name : _____ Company : _____

- When determining the flux of waste water which SDI is 5, how much flux is determined generally?
 - 13-17 gfd ② 16-20gfd ③ 8-12 gfd ④ 7-10 gfd
- For stable RO operation, it is important to check RO feed water quality carefully as guideline of RO feed water. What is the maximum level of TOC?
 - 10 ppm ② 3ppm ③ 5 ppm ④ 0.05 ppm
- What test is to confirm qualitatively whether the PA polymer structure was attacked by oxidative halogen chemicals like chlorine, bromine and iodine or not?
 - Fujiwara Test ② Integrity test ③ Dye test ④ Performance test
- If a membrane is fouled with organic compounds, what is the correct CIP method in the following?
 - Chemical : alkali, Temp. : 35~40°C, pH 1-2
 - Chemical : surfactant, Temp. : 35~40°C, pH 11-12
 - Chemical : acid, Temp. : 35~40°C, pH 1-2
 - Chemical : surfactant, Temp. : 15~20°C, pH 1-2
- If you want to produce 18m³/hr by RO membrane and know that flux is 12gfd. How many membranes are required? (m³/hr x 264.2 = gpd)
 - 25EA ② 30EA ③ 18EA ④ 24EA
- For estimating the performance change by physical damages , vacuum test would be performed. what is the correct acceptable criteria in the following?
 - <120 mbar/min ② <130mbar/min ③ <100mbar/min ④ 150mbar/min
- To determine the causes and the location of a salt passage, the element is operated with a pressurized a colored solution prior to an autopsy. A color permeate would indicate membrane damage. What is called this test?
 - Fujiwara Test ② Integrity test ③ Dye test ④ Performance test
- As a result of analyzing operating data, it shows that both permeate flow and salt passage increase but DP is stable. What cause is suspected in the following?
 - Scale ② Oxidation ③ Organic fouling ④ Detective products
- This is a index of the scaling or corrosive potential of low TDS brackish water based on the level of saturation of calcium carbonate. Normally, with antiscalant, +1.5 is permitted for stable RO operation What is this?
 - SDSI ② LSI ③ MFI ④ SDI
- This is a option in CSMPRO. By this option, you can send the low TDS front permeate to final permeate. It would be used in 2nd pass RO for seawater desalination. What is this?
 - Hybrid ② permeate blending ③ Split option ④ Concentrate recycle
- The following image is a crystal of CaCO₃ scale. What equipment should be used for the image?



Answers

1	2	3	4	5	6	7	8	9	10
③	②	①	②	④	③	③	②	②	③
11	12	13	14	15	16	17	18	19	20
③	①	③	Clean In Place	①	10, 15, 10, 15	230	100	120	80:40