Assignment-8

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

Assignment-8

1. a. Give the data for question 1 and 2

A flocculator tank contains 3000 m³ of water, which is mixed using paddles at an average velocity by paddle shaft 0.5 of 1125 m³. Density of water = 1000 kg/m³. The flocculator and corresponding dynamic viscosity are 0.01 and 0.0001 Pa.s, respectively.

The flocculator power required to achieve the desired value of Q (in kW) is _______ . (Give two decimal places) / maybe round off to nearest integer)

No, the answer is incorrect.

Correct Answer: [Type: Range] 9,18

b. To achieve the required output velocity, rectangular paddle flocculators are installed. The x-y coefficient of drag (CD) for paddles is 1.8, the paddle width (w) is 2.6 m and relative velocity of paddles to is 0.7 m/s. The required paddle area is _______ . (Give two decimal places round off to nearest integer)

No, the answer is incorrect.

Correct Answer: [Type: Range] 22,36

5. a. For the required Q value, rectangular paddle flocculators are installed. The x-y coefficient of drag (CD) for paddles is 1.8, the paddle width (w) is 2.6 m and relative velocity of paddles to is 0.7 m/s. The required paddle area is _______ . (Give two decimal places round off to nearest integer)

No, the answer is incorrect.

Correct Answer: [Type: Range] 22,36

b. Statement: I. Large flocs are easily removed in the settling basin

Statement: II. They may be advantageous to rely on velocity over the length of flocculator basin. Both statements reduce in value of Q. If, from initial to insufficient it has been observed to be effective in formation of large and heavy flocs.

No, the answer is incorrect.

Correct Answer: [Type: Range] 2,6

c. Electrodeposition in persistent level. Flocculation reaction, which of the following phenomenon is responsible for the contact between colloidal particles

- Electrodeposition
- With ion cloud
- Neutron  motion
- All of above

No, the answer is incorrect.

Correct Answer: [Type: Range] 1,0, 1,1

6. a. Common data for question 5 and 6

A sedimentation chamber of dimensions 12.0 m x 1.0 m x 0.8 m liquid depth has a flow of 729 m³/h.

The surface overflow rate is _______ m³/h [Round off to nearest integer]

No, the answer is incorrect.

Correct Answer: [Type: Range] 21,30

b. Deterioration time _______. (Give one decimal place)

No, the answer is incorrect.

Correct Answer: [Type: Range] 1.2

7. a. Statement: I. Type of settling involves flocculating particles in dilute suspension

Statement: II. The settling can not be used to determine the terminal velocity of flocculating particles as they continually change their size and shape.

No, the answer is incorrect.

Correct Answer: [Type: Range] 1,0

c. Porous particle size distribution, the overflow efficiency of floc is _______. (Give four decimal places)

No, the answer is incorrect.

Correct Answer: [Type: Range] 0.1, 0.2, 0.3, 0.4, 0.5, 0.6

8. a. Per unit particle size distribution, the overflow efficiency of floc is _______. (Give four decimal places)

No, the answer is incorrect.

Correct Answer: [Type: Range] 0.1, 0.2, 0.3, 0.4, 0.5, 0.6

b. Residence time [min] 0.2, 0.3, 0.4, 0.5, 0.6

No, the answer is incorrect.

Correct Answer: [Type: Range] 0.1, 0.2, 0.3, 0.4, 0.5, 0.6