ESE END-SEM 120BM00141

(17) $\eta = 1 - e^{(-WA/Q)}$

$Q = 2a$

$W = 0.12$

$\eta = 0.99$

$\frac{WA}{Q} = \ln(1 - 0.99)$

$\frac{0.12 \times A}{60} = 4.61$

$\Rightarrow A = 2305$

(18) $TH = 300\ mg/L$

$CH = 100\ mg/L$ (This is the alkalinity of CaCO

$NCH = TH - CH = 300 - 100$

$= 200\ mg/L$

(19) $DO_i = 7$ in 5 days

$DO_f = 0$

$BOD = (DO_i - DO_f) / (\text{dilution})$

$BOD = 7 / \left(\frac{100}{100} \times 100\right)$

$= 700\ mg/L$

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(56)

No of days = 20 × 6 = 180

No of accidents = 120

Mean = $\frac{120}{180} = 0.66$

So, 3.56

57

Amount of chlorine/day = $\frac{(15000 \times 10^{-3})^{2.5}}{(0.5 \times 10^{-4})}$

So, $X \times 25\% = 7.5 \times$

$= \frac{7.5}{25\%}$ = 30kg.