

GABAR ABDULMALIK KASIM

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300 LNH

CIVIL DEPT

$$1 \quad I_D = \frac{0.3V^2}{500 + (\ln V)^3} - 0.02V$$

$I_D = \text{mg}$

$$I_D = 3.5 \times 9.8$$

$$I_D = 34.3$$

$$\therefore 34.3 = \frac{0.3V^2}{500 + (\ln V)^3} - 0.02V$$

$$34.3 + 0.02V = \frac{0.3V^2}{500 + (\ln V)^3}$$

$$0.3V^2 = (34.3 + 0.02V)(500 + (\ln V)^3)$$

$$V^2 = \frac{(34.3 + 0.02V)(500 + (\ln V)^3)}{0.3}$$

$$V = \sqrt{\frac{(34.3 + 0.02V)(500 + (\ln V)^3)}{0.3}}$$

ITERATION CODE

1. known value

2. clear

3. etc

4. found ok?

5. yes

6.  $V = 0.5$

7. for  $i = 1:50$

8. for  $(i+1) = i$

$$9 \quad V(i+1) = \left( \frac{(34.3 + (0.02 \times V(i))) \times (500 + (\ln(V(i)))^3)}{0.3} \right)^{0.5}$$

$$10 \quad I_D(i+1) = \frac{((V(i+1) - V(i)) / V(i+1)) \times 100}{1}$$

11. if  $I_D(i+1) < 1 \text{e-} 11$

12. break

13. end

14. end

- 15  $i_k'$
- 16  $t_k'$
- 17 ~~table~~  $V'$
- 18  $table = [i_k' V' t_k']$