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ELECTRICAL ENGINEERING

EEE 382
MATHS
Assignment

Math Lab Code

```

clear
format long g
V = 0.5
for i = 1:100
    V(i+1) = sort((C(500 + C*log(V(i)))) * 3) * (34.3 + C0.020 *
        V(2))) / 0.3)
    E9(i+1) = abs(C(V(i+1)) - V(i) / V(i+c)) * 100;
    if E9(i+1) <= 1E-11
        break;
    end
end

```

Plot [V, iter]
axis tight
grid on
grid minor

iter	V	E ₉
0	0.5	0
1	239.05	99.791
2	294.17	18.736
3	302.16	2.7895
4	303.88	0.4099
5	304.04	0.060753
6	304.06	0.0088241
7	304.07	0.0012944
8	304.07	0.0012944
9	304.07	0.9335e-12

Converges at $I_{B1} = 7$, give $V = 304.07$
∴ the Converging Voltage V_B seen to be 304.07

$$T_D = \frac{0.3 V^2}{-50 + (\ln V)^3} - 0.02 V$$

$$\text{If } V = 304.07$$

$$V_e, T_b = 9.8 \times 3.8 \approx 34.3$$

$$= 0.3 \times (304.07)^2 - 0.2 (304.07)$$

$$50 + (\ln 304.07)^3$$

$$= 34.25 \approx 34.3$$