

Mehendi Hasan

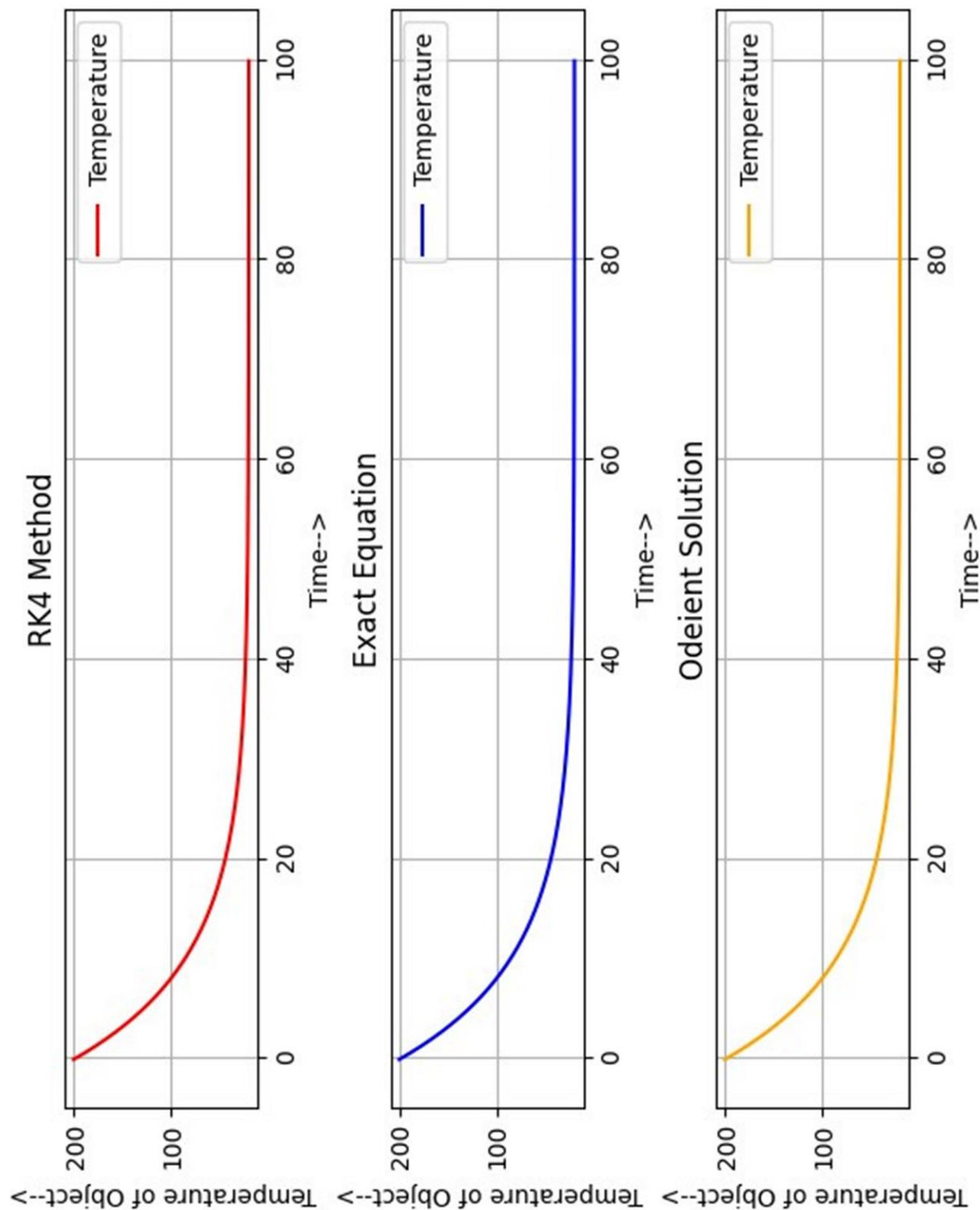
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Enter Initial value of X: 0

Enter Value of Y at Initial value of X: 1

Enter Step Size: 0.001

Enter last value of interval: 10



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Newton's Law of Cooling

Temperature is in Degree Celsius and time is in seconds

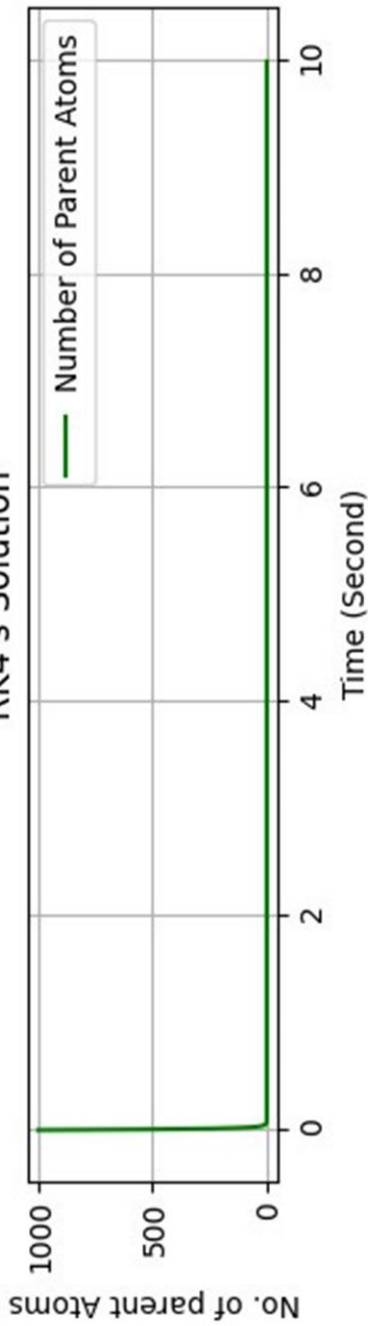
Enter initial Temperature of Object: 200

Enter Surrounding temperature: 20

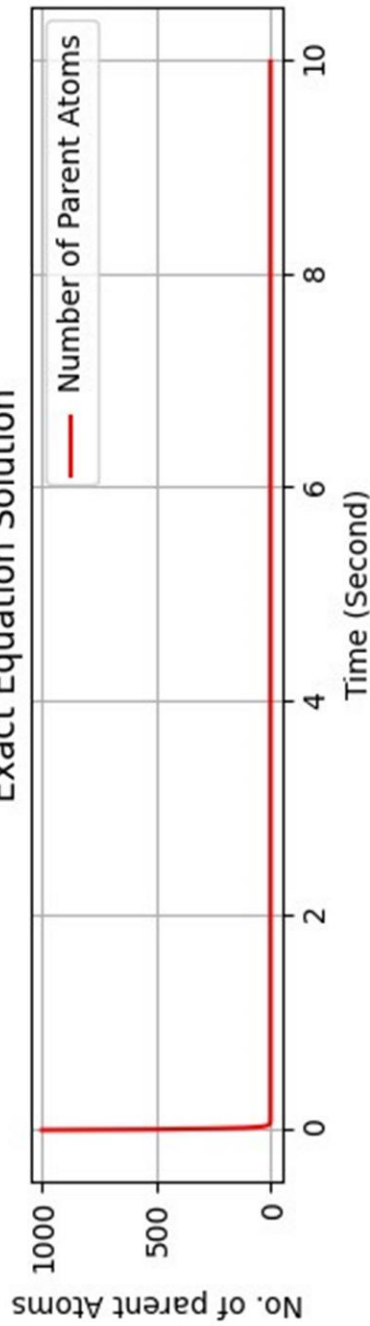
Enter time from t=0, at which temperature of Object to be calculated: 100

To Plot Radioactive Decay ODE by RK4 method, Exact solution & Inbuilt solver.

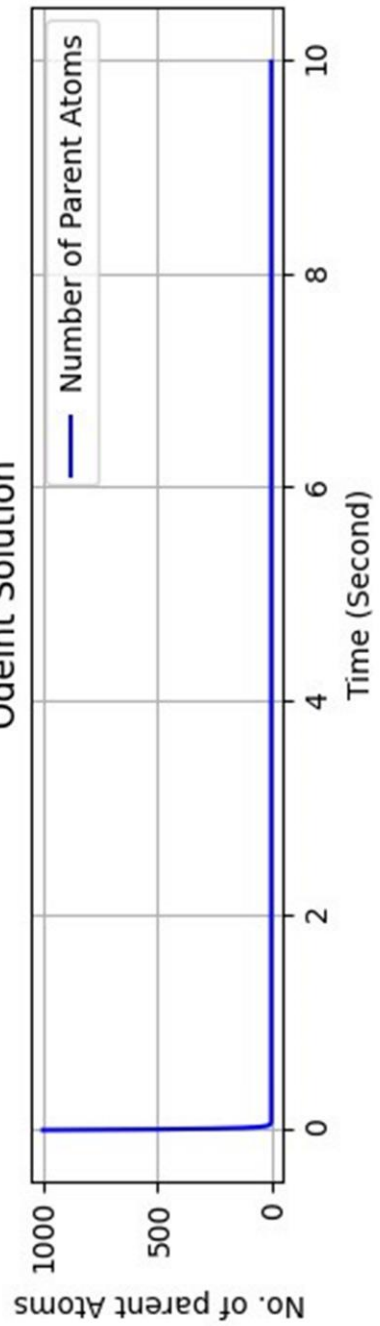
RK4's Solution



Exact Equation Solution



Odeint Solution



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Radioactive Decay

Time is in Seconds

Enter Number of Parent Atoms at $t=0$: 1000

Enter time instant at which Remaining of Parent Atoms to be calculated: 10

Enter Radioactive Decay constant value: 101

To Plot Charging and Discharging of a capacitor in RC circuit ODE with DC source by RK4 Method, Exact solution, Inbuilt solver

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RC Circuit Charging and Discharging of Capacitor

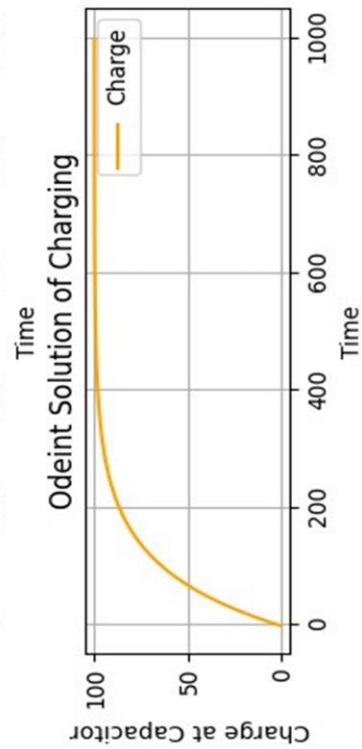
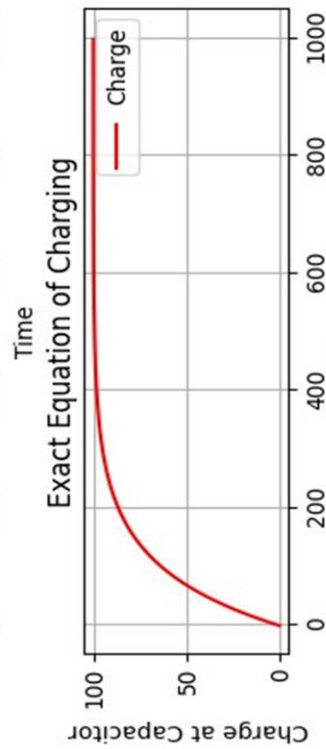
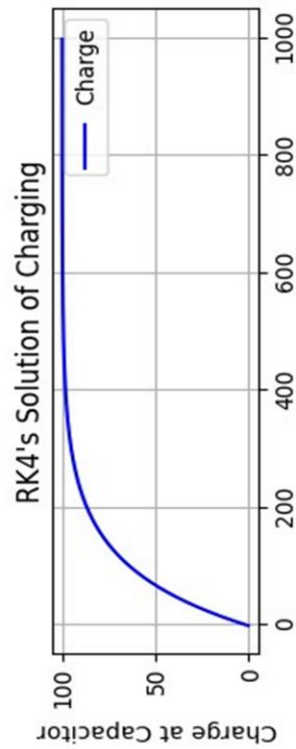
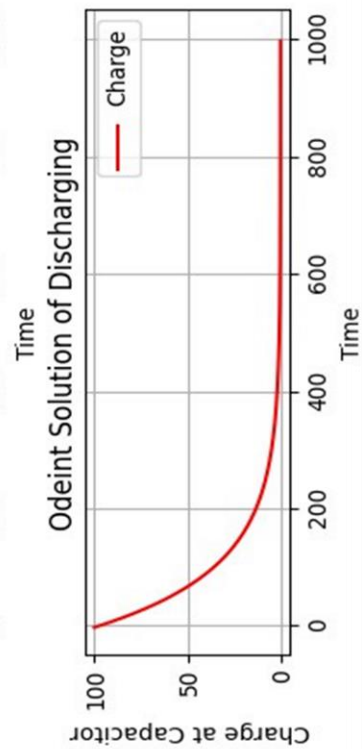
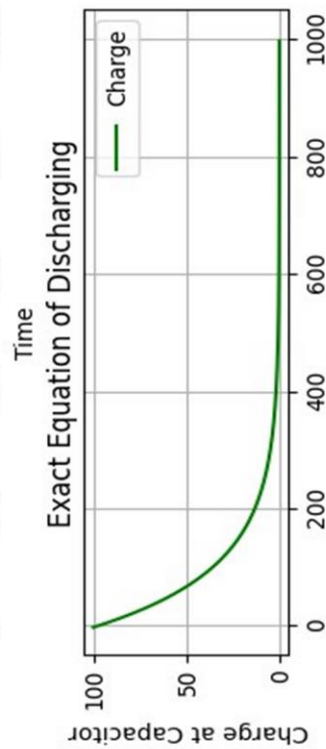
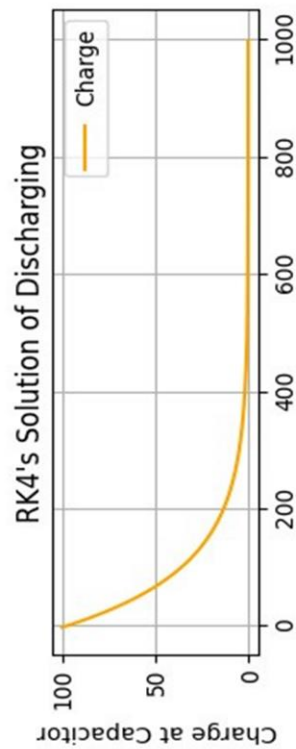
Capacitance is in Farad, resistance is in ohm,time is in second,charge in coulomb,voltage in volts.

Enter Capacitance of Capacitor: *1*

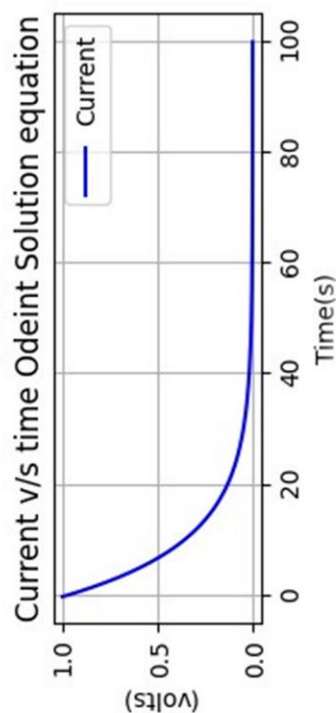
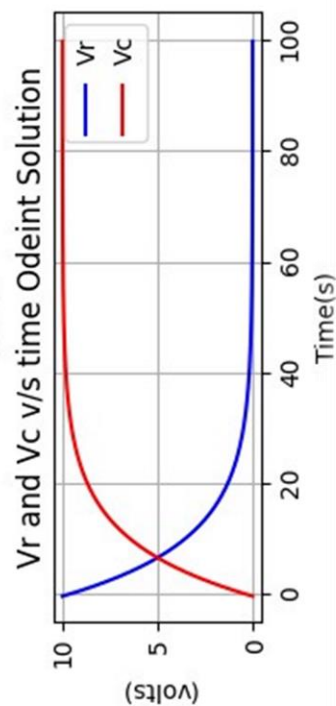
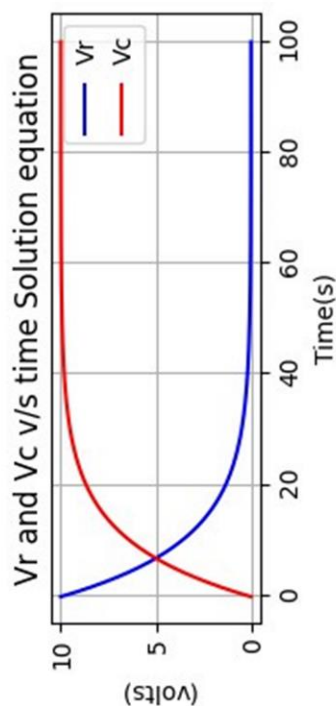
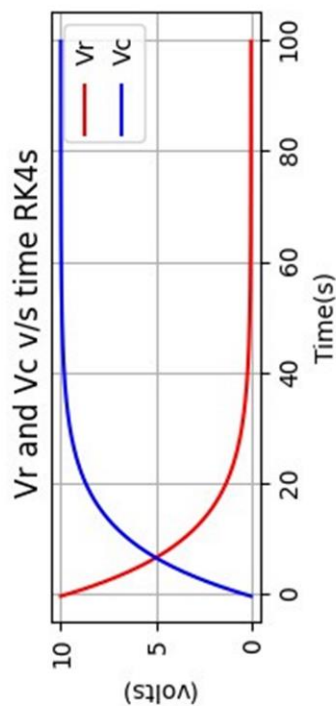
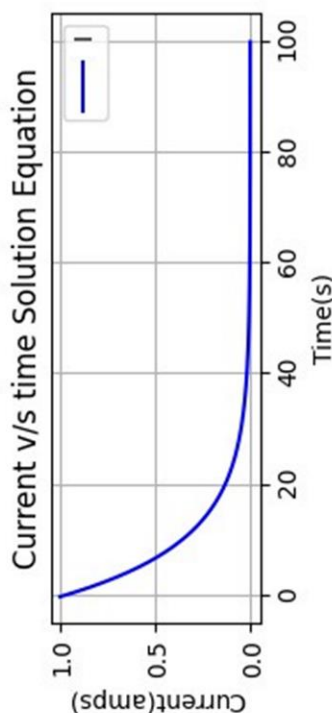
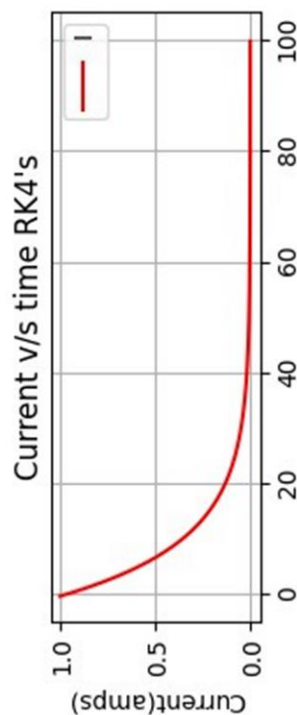
Enter EMF of Battery: *100*

Enter Resistance of Resistor: *100*

Enter time instant at which charge on capacitor to be calculated: *1000*



To Plot Current in RC circuit and potential ODE with DC source by RK4 Method, Exact solution, Inbuilt solver.



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RC Circuit

Capacitance is in Farad, resistance is in ohm,time is in second,charge in coulomb,voltage in volts.

Enter the value of resistance in ohms:10

Enter the value of capacitance in farads:1

Enter the value of EMF in volts:10

Enter time instant at which current to be measured:100

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To Plot Current in RL circuit ODE with DC source by RK4 Method, Exact solution, Inbuilt solver.

Variation of current with time in RL Circuit

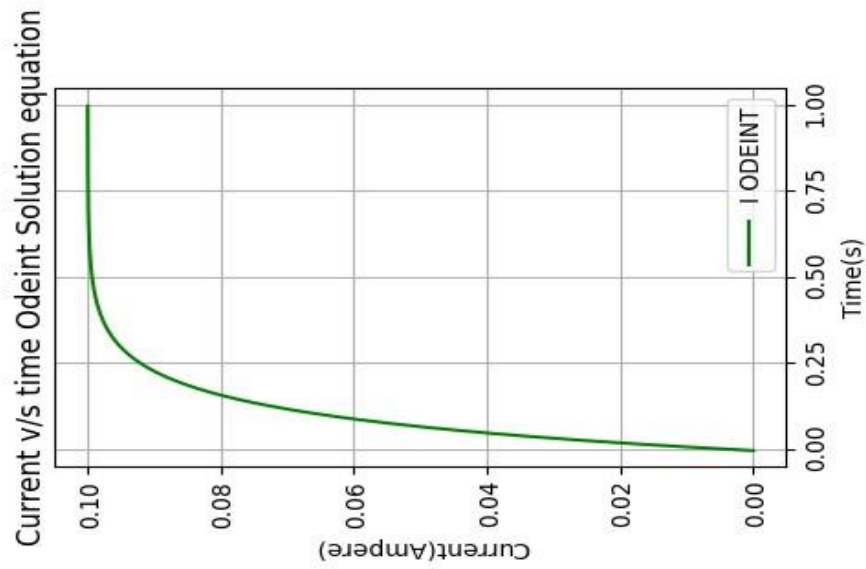
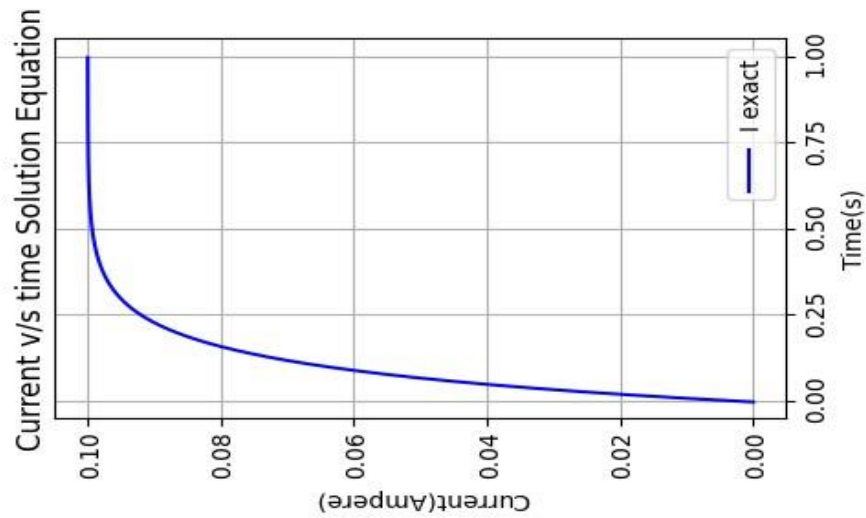
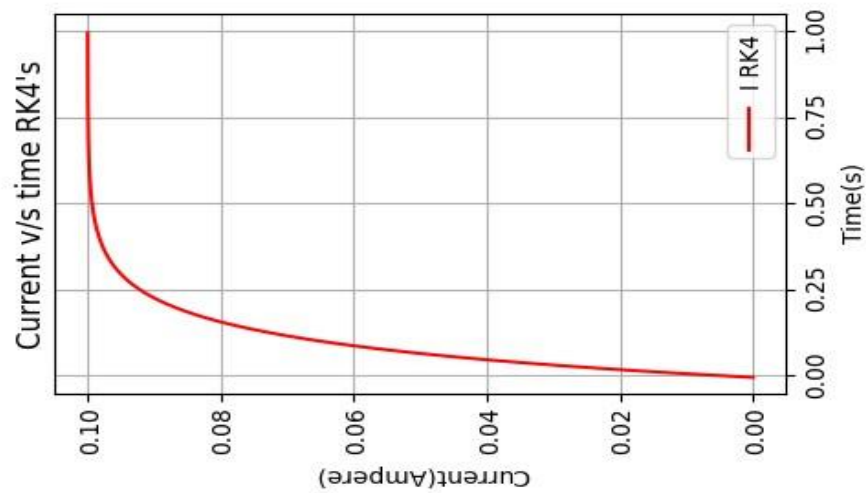
Resistance is in ohm,time is in second,Inductance in henry,voltage in volts.

Enter Inductance of Inductor: 10

Enter EMF of Battery: 10

Enter Resistance of Resistor: 100

Enter time instant at which Current through inductor to be calculated: 1



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