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COURSE: B.Sc(hons.)Physics

ROLL NO.: 81

**SOURCE CODE:**

clc;

clear;

clf;

m=input("enter initial mass of the person=")

d=input("enter the rate of deduction of mass per month=")

n=input("enter the month on which mass is to be calculated =")

function **ydot**=f(**t**, **y**)

**ydot**= -(d/100)\***t**

endfunction

y0=m

t0=0

t=0:1:24

y=ode(y0,t0,t,f)

xlabel("month","fontsize",4)

ylabel("mass(Kg)","fontsize",4)

a=gca()

a.x\_location="origin"

a.y\_location="origin"

title('ODE','fontsize',5)

plot2d(t,y,1)

for t=0:1:24

if t==n

y=ode(y0,t0,t,f)

disp("mass of the peron on "+string(n)+"rd month is="+string(y)+"kg")

end

end

**OUTPUT:**

enter initial mass of the person=100

enter the rate of deduction of mass per month=10

enter the month on which mass is to be calculated =5

mass of the peron on 5rd month is=98.75kg

