KALU - IDIKA CHIEDOZIE KALU

16/ENG02/028

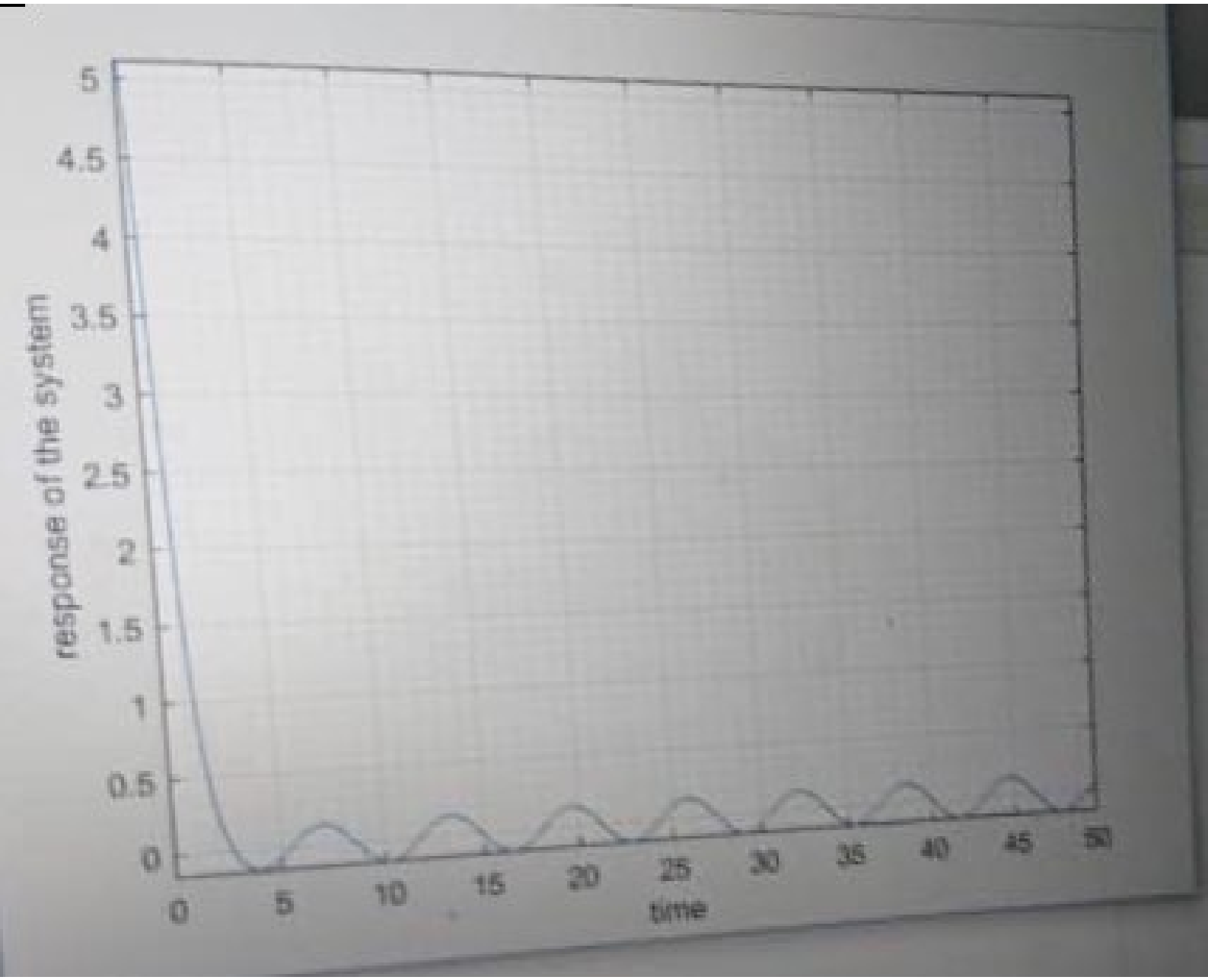
COMPUTER ENGINEERING

ENG 381

Questions on number 4

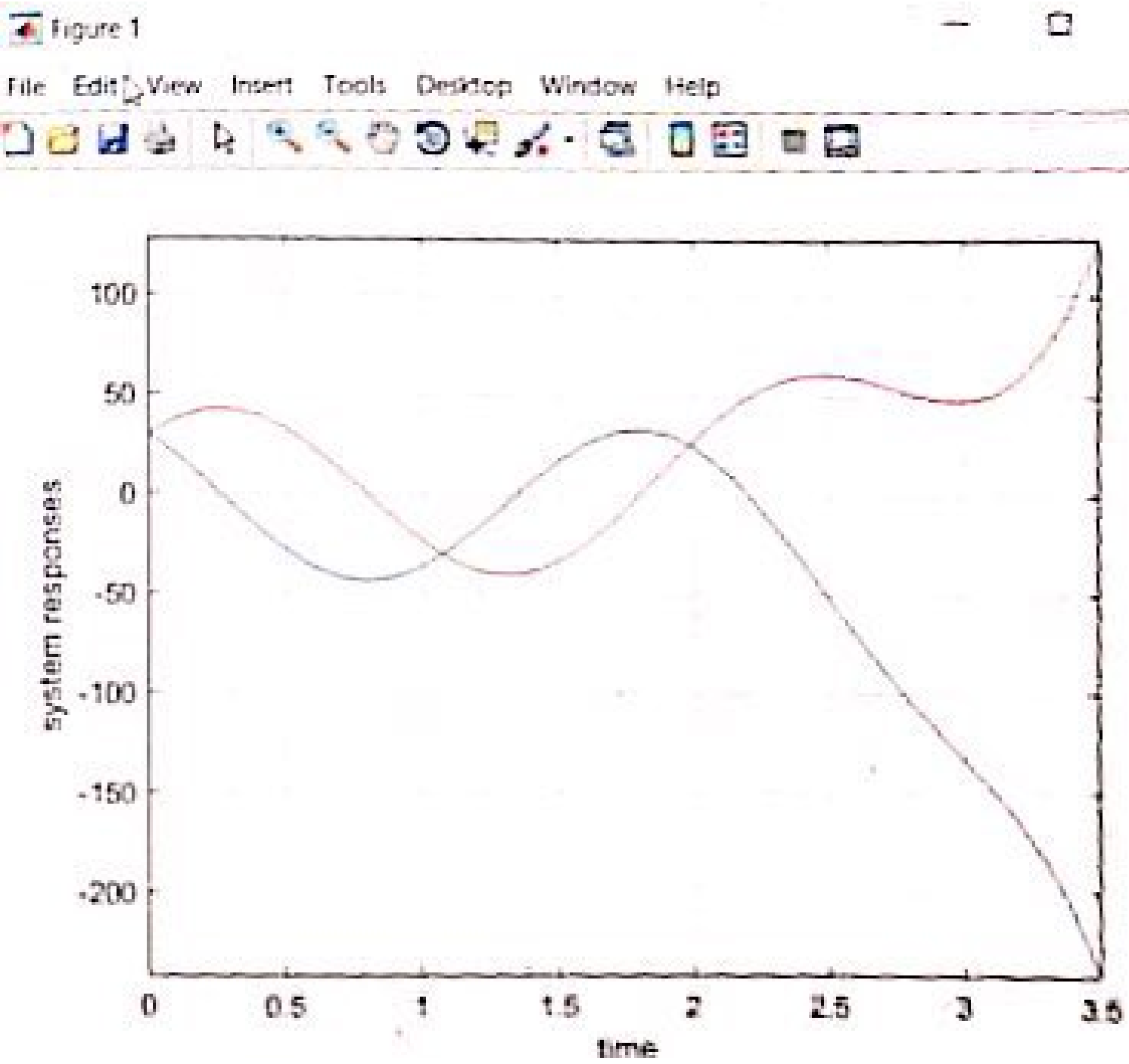
Assignment 3

```
1 -  commandwindow
2 -  clear
3 -  clc
4 -  syms t
5 -  tn=[0:0.1:50]
6 -  x=17.6*exp(-2*t)-12.7*exp(-3*t)+0.1*sin(t)+0.1*cos(t)
7 -  s=subs(x,tn)
8 -  figure(1)
9 -  plot(tn,s)
10 - axis tight
11 - grid on
12 - grid minor
13 - xlabel("time")
14 - ylabel("response of the system")
15
```



e16ENG06011.m | b16ENG06011.m | d16ENG06011.m | c16ENG06011.m

```
commandwindow
clear
clc
syms s
f(s)=3.142/(s^2+10*3.142*s+24*3.142^2)
ilaplace(f(s))
```



```
commandwindow
clear
clc
syms i
dsolve('l*Di+r*i=e')
```

e16ENG06011.m | b16ENG06011.m | d16ENG06011.m | c16ENG06011.m | a16ENG06011.m

```
1 -  commandwindow
2 -  clear
3 -  clc
4 -  syms t
5 -  e1=('Dy+3*x=exp(-2*t)')
6 -  e2=('Dx-3*y=exp(2*t)')
7 -  [x,y]=dsolve(e1,e2,'x(0)=30','y(0)=30')
8 -  y=(5*13^(1/2)*cos(3*t + atan(77/79)))/13 - (3*exp(2*t))/13 - (2*exp(-2*t))/13
9 -  x =(3*exp(-2*t))/13 + (2*exp(2*t))/13 + (5*13^(1/2)*cos(3*t - atan(79/77)))/13
10 -  tn=[0:0.1:3.5]
11 -  h=subs(y,tn)
12 -  w=subs(x,tn)
13 -  figure(1)
14 -  plot(tn,h,tn,w)
15 -  axis tight
16 -  grid on
17 -  grid minor
18 -  xlabel('time')
19 -  ylabel('system responses')
20
```

Command Window

New to MATLAB? See resources for Getting Started

```
(80*exp(-2*t))/5 - (137*exp(-3*t))/10 + cos(t)/10 + sin(t)/10


x =

[ 5, cos(1/10)/10 + (80*exp(-1/5))/5 - (137*exp(-3/10))/10 + sin(1/10)/10, cos(1/5)/10 + (80*exp(-2/5))/
fx >>
```