

KALU - IDIISA CHIEDOZIE KALU

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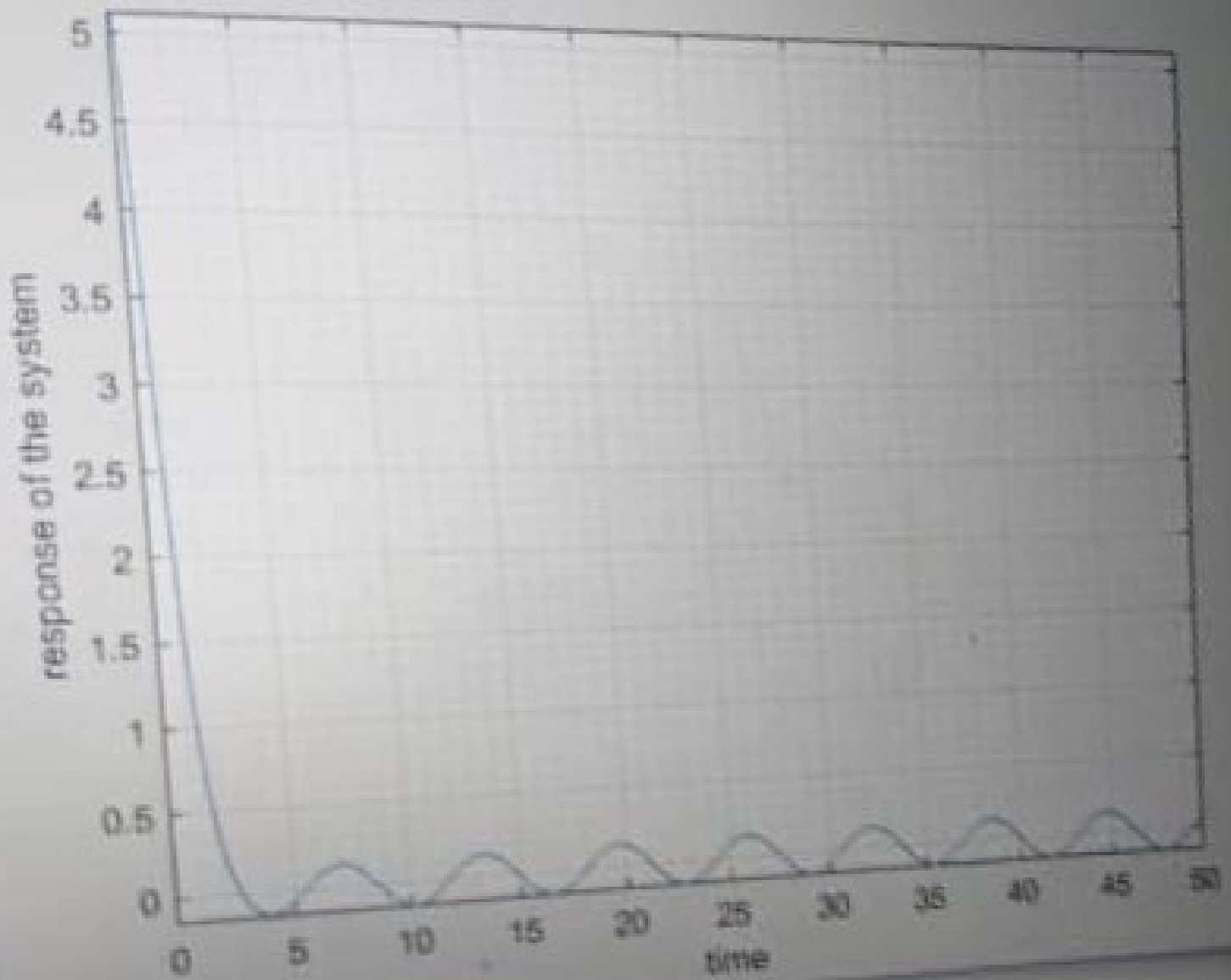
COMPUTER ENGINEERING

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 x b16ENG06011.m x d16ENG06011.m x c16ENG06011.m x a16ENG06011.m

```
commandwindow
```

```
clear
```

```
cic
```

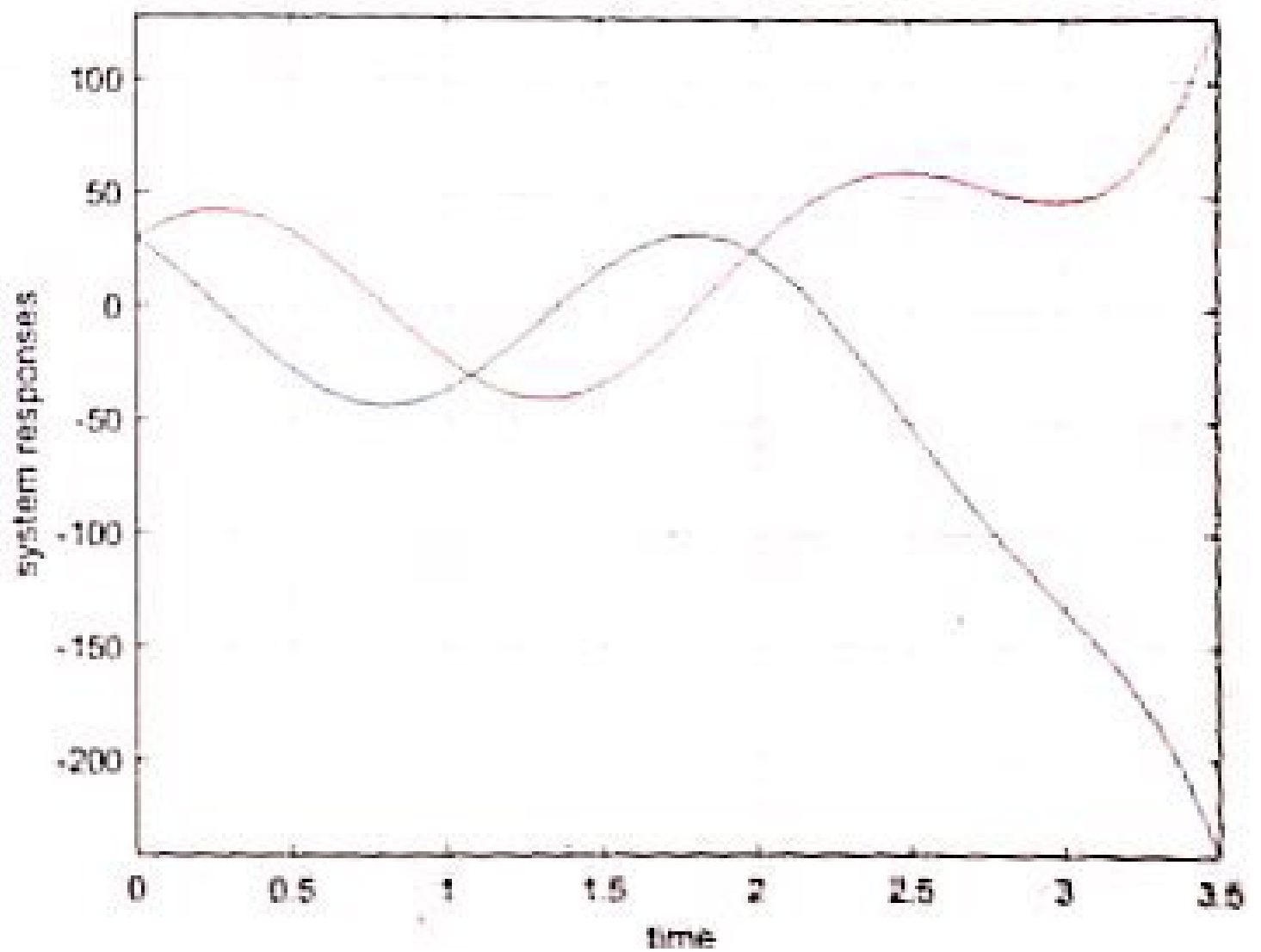
```
syms s
```

```
f(s) = 3.142/(s^2+10*3.142*s+24*3.142^2)
```

```
ilaplace(f(s))
```

Figure 1

File Edit View Insert Tools Desktop Window Help



```
commandwindow  
clear  
clc  
syms i  
dsolve('1*Di+ri=e')
```

```

e16ENG06011.m x b16ENG06011.m x d16ENG06011.m x c16ENG06011.m x a16ENG06011.m x +
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*12170^(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*12170^(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 response')
20

```

```

Command Window
New to MATLAB? See resources for Getting Started.

(80*exp(-2*t))/5 - (127*exp(-3*t))/10 + cos(t)/10 + sin(t)/10

a =

[ 5, cos(1/10)/10 + (80*exp(-1/5))/5 - (127*exp(-3/10))/10 + sin(1/10)/10, cos(1/10)/10 + (80*exp(-3/10))/5 - (127*exp(-1/5))/10 + sin(1/10)/10]

fx >>
< 33

```

```
e16ENG06011.m  A  D16ENG06011.m  A  D16ENG06011.m  A  D16ENG06011.m
1 -  commandwindow
2 -  clear
3 -  clc
4 -  syms a w t k
5 -  f(t)=k*exp(-a*t)*cos(w*t)
6 -  laplace (f(t))
```

Command Window
New to MATLAB? See resources for Getting Started.
[242291230297759] * COS [6MS97671648971097W0748MS4789831152] 16/08/2024 10:00:00 AM