**>> soru1**

Kod:

clc;

clear;

pay=[2 16 44 56 32];

payda=[3 3 -15 18 -12];

G=tf(pay,payda)

[z,p,k]=tf2zp(pay,payda)

zp2sos(pay,payda)

zplane(pay,payda)

Çıktı:

>> soru1

G =

2 s^4 + 16 s^3 + 44 s^2 + 56 s + 32

-----------------------------------

3 s^4 + 3 s^3 - 15 s^2 + 18 s - 12

Continuous-time transfer function.

z =

-4.0000 + 0.0000i

-2.0000 + 0.0000i

-1.0000 + 1.0000i

-1.0000 - 1.0000i

p =

-3.2361 + 0.0000i

1.2361 + 0.0000i

0.5000 + 0.8660i

0.5000 - 0.8660i

k =

0.6667

ans =

Columns 1 through 5

1 -56 0 1 -18

1 -76 1408 1 27

1 -18 32 1 -6

Column 6

0

180

9



**>>Soru 2**

Kod:

clc;

clear;

pay=[6 14 26 36 2 14 44 56 32];

payda=[7 1 3 12 33 3 3 -15 18 -12];

G=tf(pay,payda)

[z,p,k]=tf2zp(pay,payda)

zp2sos(pay,payda)

zplane(pay,payda)

Çıktı:

G =

6 s^8 + 14 s^7 + 26 s^6 + 36 s^5 + 2 s^4 + 14 s^3 + 44 s^2

+ 56 s + 32

----------------------------------------------------------------

7 s^9 + s^8 + 3 s^7 + 12 s^6 + 33 s^5 + 3 s^4 + 3 s^3

- 15 s^2 + 18 s - 12

Continuous-time transfer function.

z =

-0.2791 + 1.8688i

-0.2791 - 1.8688i

-1.7648 + 0.0000i

0.8770 + 0.7275i

0.8770 - 0.7275i

-0.8427 + 0.0000i

-0.4609 + 0.7492i

-0.4609 - 0.7492i

p =

0.9815 + 1.2775i

0.9815 - 1.2775i

-1.1375 + 0.7130i

-1.1375 - 0.7130i

-0.5837 + 0.9241i

-0.5837 - 0.9241i

0.6546 + 0.0000i

0.3410 + 0.5936i

0.3410 - 0.5936i

k =

0.8571

ans =

Columns 1 through 5

0 1 -56 1 -51

1 -80 1584 1 3

1 -58 832 1 5

1 -28 196 1 -6

1 -8 12 1 -4

Column 6

594

-180

-84

9

3



**>>Soru 3**

Kod:

clc;

clear;

z=[4 3 3];

p=[-0.45 0.67 0.81+0.72j]

k=2.2;

G=zpk(z,p,k)

impulseplot(G)

figure, step(G)

Çıktı:

p =

-0.4500 + 0.0000i 0.6700 + 0.0000i 0.8100 + 0.7200i

.

G =

2.2 (s-4) (s-3)^2

----------------------------------

(s+0.45) (s-0.67) (s-(0.81+0.72i))

Continuous-time zero/pole/gain model.





>> Soru 4

Kod:

clc;

clear;

n=[18];

d=[18 3 -4 -1];

[r,p,k]=residue(n,d)

Çıktı:

r =

1.4400

-1.4400

-1.2000

p =

0.5000

-0.3333

-0.3333

k =

[]

**>> soru5**

Kod:

clc;

clear;

pay=[0.008 -0.033 0.05 -0.033 0.080];

payda=[1 2.37 2.7 1.6 0.41];

x=tf(pay,payda)

bode(x),grid

Çıktı:

x =

0.008 s^4 - 0.033 s^3 + 0.05 s^2 - 0.033 s + 0.08

-------------------------------------------------

s^4 + 2.37 s^3 + 2.7 s^2 + 1.6 s + 0.41

Continuous-time transfer function.

