Q.1:

XK =

10.0000 + 0.0000i -2.0000 + 2.0000i -2.0000 - 0.0000i -2.0000 - 2.0000i

Q.2:

XK =

10.0000 + 0.0000i -0.4142 - 7.2426i -2.0000 + 2.0000i 2.4142 - 1.2426i

-2.0000 - 0.0000i 2.4142 + 1.2426i -2.0000 - 2.0000i -0.4142 + 7.2426i

Q.3:

XK =

10.0000 + 0.0000i 6.4998 - 6.5822i -0.4142 - 7.2426i -4.0515 - 2.4383i

-2.0000 + 2.0000i 1.8088 + 1.8043i 2.4142 - 1.2426i -0.2572 - 2.3396i

-2.0000 + 0.0000i -0.2572 + 2.3396i 2.4142 + 1.2426i 1.8088 - 1.8043i

-2.0000 - 2.0000i -4.0515 + 2.4383i -0.4142 + 7.2426i 6.4998 + 6.5822i

Q.4:

xn =

1.0000 - 0.0000i 2.0000 - 0.0000i 3.0000 - 0.0000i 4.0000 + 0.0000i

Q.5:

xn =

1.0000 - 0.0000i 2.0000 - 0.0000i 3.0000 - 0.0000i 4.0000 + 0.0000i

-0.0000 + 0.0000i 0.0000 + 0.0000i 0.0000 + 0.0000i 0.0000 + 0.0000i

Q.6:

xn =

14.0000 - 0.0000i 16.0000 + 0.0000i 14.0000 - 0.0000i 16.0000 - 0.0000i