

Question No. 4

Converting t-domain model to s-domain

```
1.commandwindow
2. clear
3.clc
4.syms t k a w
5.f = k*exp(-a*t)*cos(w*t)
6. fs = laplace(f)
7. pretty(fs)
```

comandwindow

f =

$k \exp(-a t) \cos(t w)$

fs =

$(k(a + s)) / ((a + s)^2 + w^2)$

$k(a + s)$

$^2 \quad ^2$

$(a + s) + w$