

### Question No. 3

#### Solving the equation using the dsolve command

```
1.commandwindow
2.clear
3.clc
4.syms I(t) L R E
5.df = [diff(I,t)*L + R*I == E]
6.dfcondition = [I(0) == 0 ]
7.dg = dsolve(df,dfcondition)
8.pretty(dg)
```

commandwindow

df(t) =

$L \cdot \text{diff}(I(t), t) + R \cdot I(t) == E$

dfcondition =

$I(0) == 0$

$dg = (E - E \cdot \exp(-(R \cdot t) / L)) / R$

$$\frac{E - E \exp\left(-\frac{R t}{L}\right)}{R}$$

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R

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