rechnung_signalzeitverlauf_umkehrintegrator

Student Group

First Name	Surname	Matrikel Nr.

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$I.\quad$ At the point t_1

$U_{O}(t_1) \ \ = -\quad { 1 \over {\tau} } \quad \ \cdot \int_{t_0}^{t_1} \quad U_I \ dt \ + \ U_{O}(t_0)$	
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$	$\qquad\qquad$
$U_{O}(t_1) \ \ = -{ 1 \over {5 k\Omega \cdot 1 \mu F} }\cdot\int_{0}^{10ms} 1V \ dt + 0V$	
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$	$\qquad\qquad$
$U_{O}(t_1) \ \ = - \quad { 1 \over {5 ms} } \quad \cdot 1V \ \cdot \int_{0}^{10ms} \ dt\quad\quad$	
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$	$\qquad\qquad$
$U_{O}(t_1) \ \ = - \quad { 1 \over {5 ms} } \quad \cdot 1V \ \cdot [t]_{0}^{10ms} = \quad -2V$	
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$	$\qquad\qquad$

$I.\quad$ At the point t_2

$U_{O}(t_1) \ \ = -\quad { 1 \over {\tau} } \quad \ \cdot \int_{t_0}^{t_1} U_I \ dt \ + \ U_{O}(t_0)$	
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$	$\qquad\qquad$
$U_{O}(t_1) \ \ = -{ 1 \over {5 ms} } \quad \cdot (-1V) \ \cdot [t]_{10ms}^{20ms} + 2V = 0V$	
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$	$\qquad\qquad$

$I.\quad$ At the point t_3

$U_{O}(t_1) \ \ = -\quad { 1 \over {\tau} } \quad \ \cdot \int_{t_0}^{t_1} U_I \ dt \ + \ U_{O}(t_0)$	
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$	$\qquad\qquad$
$U_{O}(t_1) \ \ = -{ 1 \over {5 ms} } \quad \cdot (-2V) \ \cdot [t]_{10ms}^{20ms} + 0V = -2V$	
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$	$\qquad\qquad$