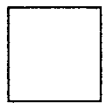
ชื่อ.....รหัสนักศึกษา.....เลขที่นั่งสอบ.....

Seat No. 

King Mongkut's University of Technology Thonburi

Midterm Examination for Semester 1/2559

Friday 23nd September 2016 **TIME 09:00-12:00**

CPE221 Circuits and Electronics for Computer Engineers **Computer Engineer Student 2nd Year**

Directions

1. There are 6 Questions in 5 pages (include this page) for 100 points
2. Do all questions
3. Fill Student name, student ID in every Page
4. Calculator is allowed
5. Do not permit any note, book into exam room
6. Do not bring exam sheet out of exam room

Kraikron Settakraikron

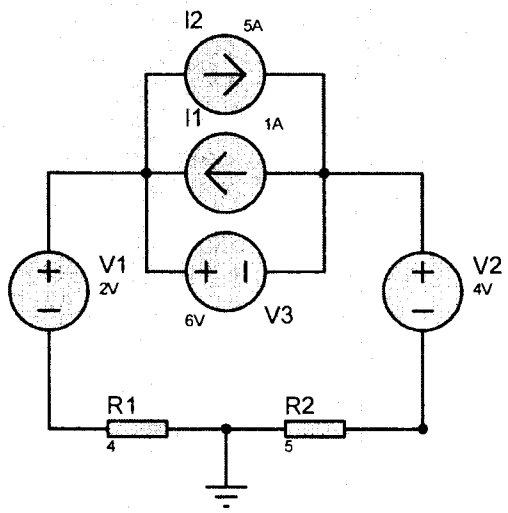
This exam has already verified by Computer Engineering Department

(Assoc.Prof.Dr.Natasha Dejdumrong)

President of Curriculum

ชื่อ.....รหัสนักศึกษา.....เลขที่นั่งสอบ.....

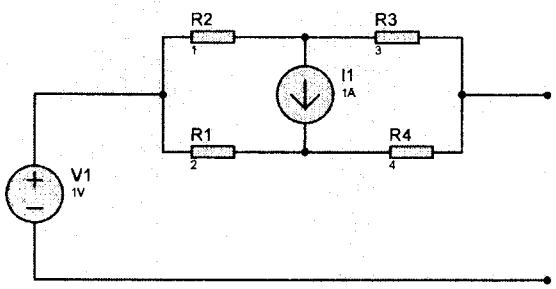
1. Find I1 that supplied by V1 (15)



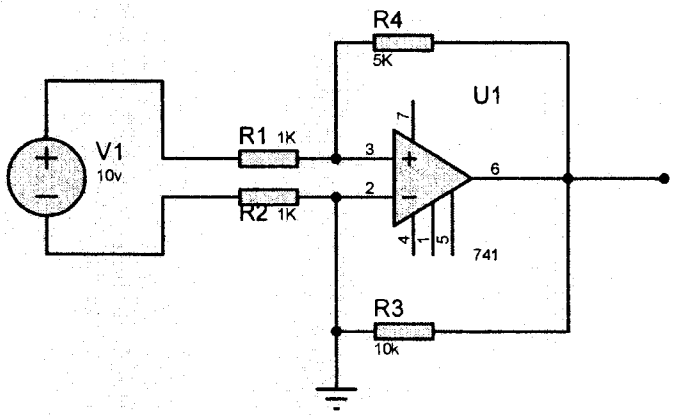
2. From Q1 find I2 that supplied by V2 using SuperPosition (15)

ชื่อ.....รหัสนักศึกษา.....เลขที่นั่งสอบ.....

3. Find Vth and Rth for Thevenin Equivalent Circuit (15)

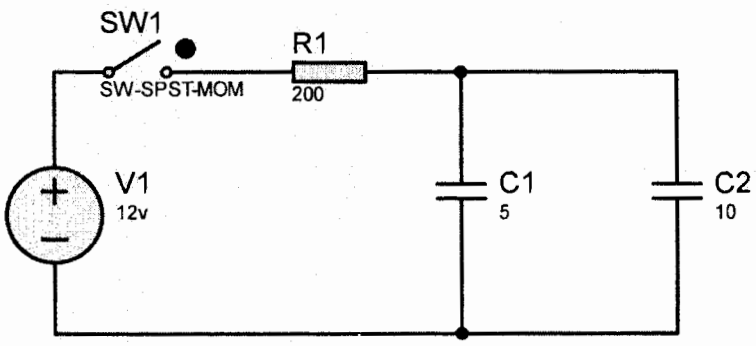


4. Find Voutput (20)

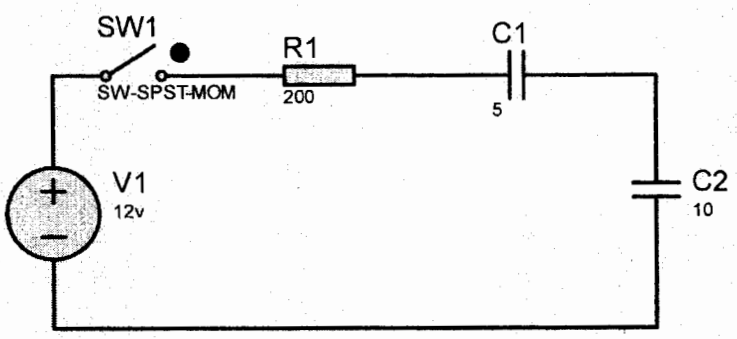


ชื่อ.....รหัสนักศึกษา.....เลขที่นั่งสอบ.....

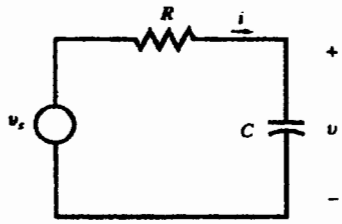
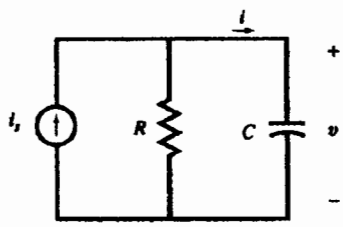
5. Power on at t=0, Find Completed current Ic1 that pass-through C1 (20)



6) Power on at t=0, Find Completed Voltage across C2 (20)



ชื่อ.....รหัสนักศึกษา.....เลขที่นั่งสอบ.....

RC circuit	Unit Step Response	Unit Impulse Response
	$v_s = u(t)$ $\begin{cases} v = (1 - e^{-t/Rc})u(t) \\ i = (1/R)e^{-t/Rc}u(t) \end{cases}$	$v_s = \delta(t)$ $\begin{cases} h_v = (1/RC)e^{-t/RC}u(t) \\ h_i = -(1/R^2C)e^{-t/RC}u(t) + (1/R)\delta(t) \end{cases}$
	$i_s = u(t)$ $\begin{cases} v = R(1 - e^{-t/RC})u(t) \\ i = e^{-t/RC}u(t) \end{cases}$	$i_s = \delta(t)$ $\begin{cases} h_v = (1/C)e^{-t/RC}u(t) \\ h_i = -(1/RC)e^{-t/RC}u(t) + \delta(t) \end{cases}$