

ECE 113: Basic Electronics Quiz-4

Duration: 25 Minutes

Date: 18-May-2023

Total Points: 15

Q1: In the circuit shown below (Figure-1), find the value of ammeter reading (I) and power factor of the circuit. If $V_1(t) = 10 \sin(t)$ and $V_2(t) = 10\sqrt{5}\sin(2t)$. [5 points]

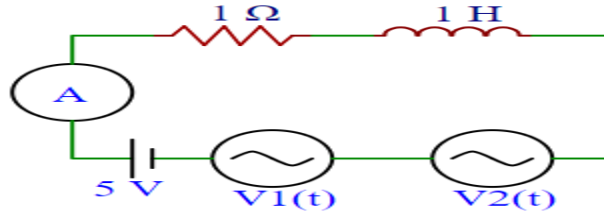


Figure 1

Q2: Find circuit elements & value by using the following equations- (a) $V(t) = 9 \sin(t+45^\circ)$, $I(t) = 3 \sin(t-45^\circ)$ (b) $V(t) = 9\sin(t+30^\circ)$, $I(t) = 3 \sin(2t+60^\circ)$ [4 Points]

Q3: In the circuit shown below (Figure-2), at $t=0$ sec the switch is connected to position-1 & after two time constant the switch is transferred to position-2. Find out current response in position-2. [6 Points]

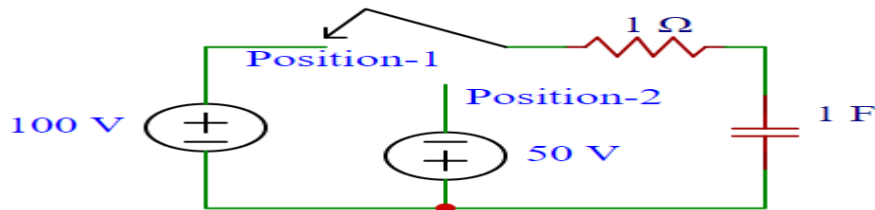


Figure 2