ELectronics Engineering Students' Association**(ELESA)**

Presents

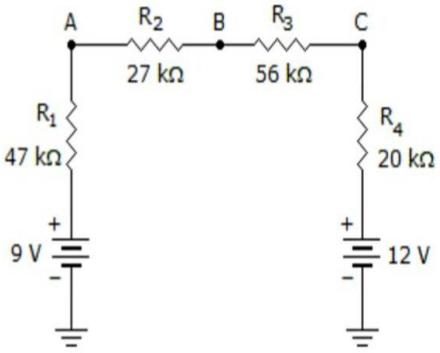
ELECTROVERT 2018

The Performers' creed

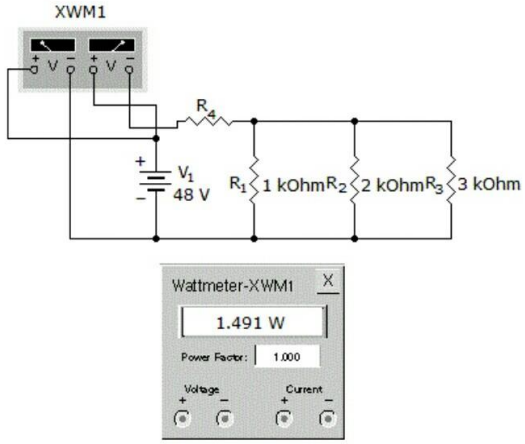
Name of the Event: **Circuit-Tech (Novice) Round2** Candidate's Code:	Date:**09 Sept 2018** Time:**45 min**

- All **questions** are compulsory.
- All questions are compulsory and carries equal amount of marks.
- Use of calculators is allowed.
- Use of mobile is strictly prohibited.

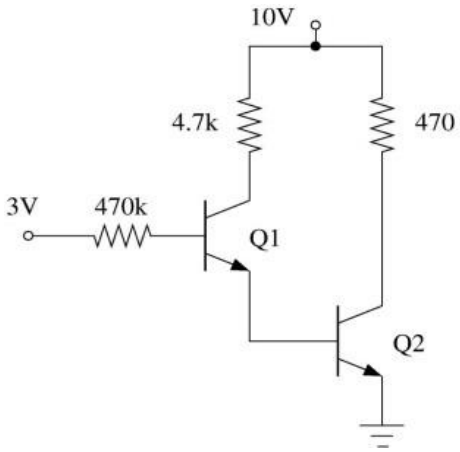
1. How much current flows in the given circuit?



2. What is the total resistance?



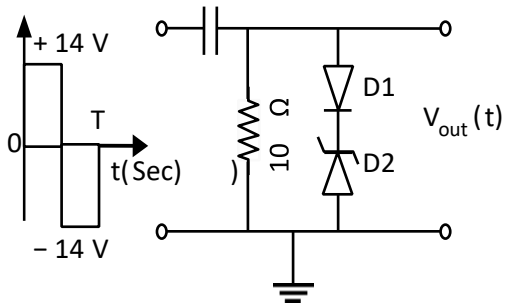
3.Find iC2 (Si BJT with β1=100 and β2=50).



4.

In the figure, D1 is a real silicon pn junction diode with a drop of 0.7V under forward bias condition and D2 is a zener diode with breakdown voltage of −6.8V. The input $V_{in}(t)$ is a periodic square wave of period T, whose one period is shown in the figure.

$V_{in}(t)$ 10 μF



Assuming $10\,\tau \ll T$. Where τ is the time constant of the circuit, the maximum and minimum values of the output waveform are respectively?