<p align="center">Tutorial</p>

<p align="center">Diodes and Rectifiers</p>

1. Short Questions
    a. A full-wave rectifier supplies a load of 1KΩ. The AC voltage applied to diodes is 220V (RMS). If diode resistance is neglected, what is the DC voltage?
    b. A half-wave rectifier is used to supply 50 V d.c. to a resistive load of 800 Ω. The diode has a resistance of 25 Ω. Calculate a.c. voltage required.
    c. In the center-tap circuit shown in Fig. 1, the diodes are assumed to be ideal i.e. having zero internal resistance. Find the average output current.
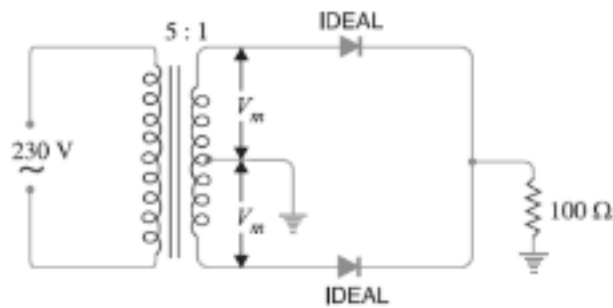

<p align="center">Figure: 1</p>

2. In the given circuit, $V_{in} = V_m \sin(\omega t)$, where $\omega = \frac{2}{\tau}$. Find the value of RC such that peak-to-peak ripple voltage at the output is 2% of peak-voltage.
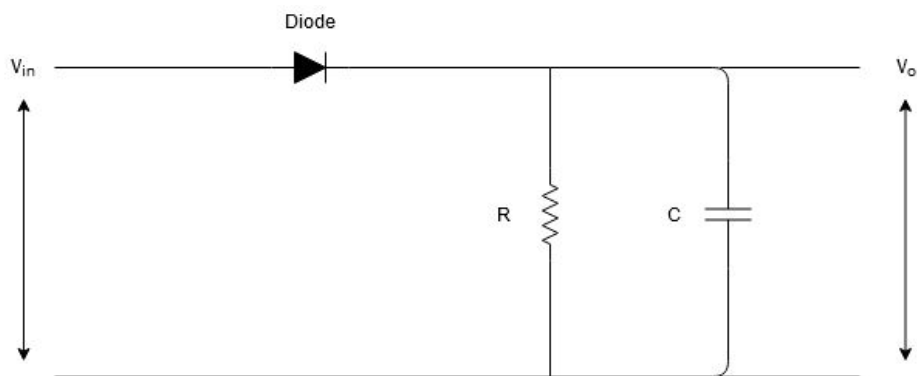

<p align="center">Figure: 2</p>