Problem 9.11
\[ I_{F\text{max}} = \frac{50\sqrt{2} - 0.7}{220} = 318 \text{ mA} \]
\[ V_{\text{Rev}} = 50\sqrt{2} = 70.7 \text{ V} \]

Problem 9.26
The capacitor will charge to \(5 \text{ V} - 0.7 \text{ V} = 4.3 \text{ V}\). Accordingly, the average value of the output will be 4.3 V.

Problem 28
Problem 9.32
At $\omega t = 0$, $D_1$ is on and when $\omega t = \pi$, $D_1$ is off and the reverse voltage across it maximum. $V_s = 170 \times 0.1 = 17$ V

**KVL:**

\[
V_{s1} + V_{D1} + V_L = 0
\]

At $\omega t = 0$, $V_p = 17 - 0.7 = 16.3$ V
At $\omega t = \pi$, $V_{D1} = -17 - 16.3 = -33.3$ V

The actual peak reverse voltage (33.3 V) is greater than the rated peak reverse voltage (30 V). Therefore, the diodes are not suitable for the specification.

Problem 9.37

\[
V_s = V_{line} = 50 \cos(\omega t)
\]

\[
V_{sp} = 50 \text{ V}
\]

At $\omega t = 0$ ($D_1$ and $D_3$ are conducting) and $D_2$ and $D_4$ are off.

**KVL:** Consider $V_{D1} = V_{D2} = 0.7$ V

\[
-V_s + V_{D1} + V_L + V_{D2} = 0
\]

\[
= 48.6 \text{ V}
\]

At $\omega t = \pi$

\[
V_{D1}(\pi) + V_{D3}(\pi) = -V_s - V_m
\]

\[
V_{D1} = V_{D3}
\]

\[
V_{D13} = \frac{-50 - 48.6}{2} = -49.3 \text{ V}
\]