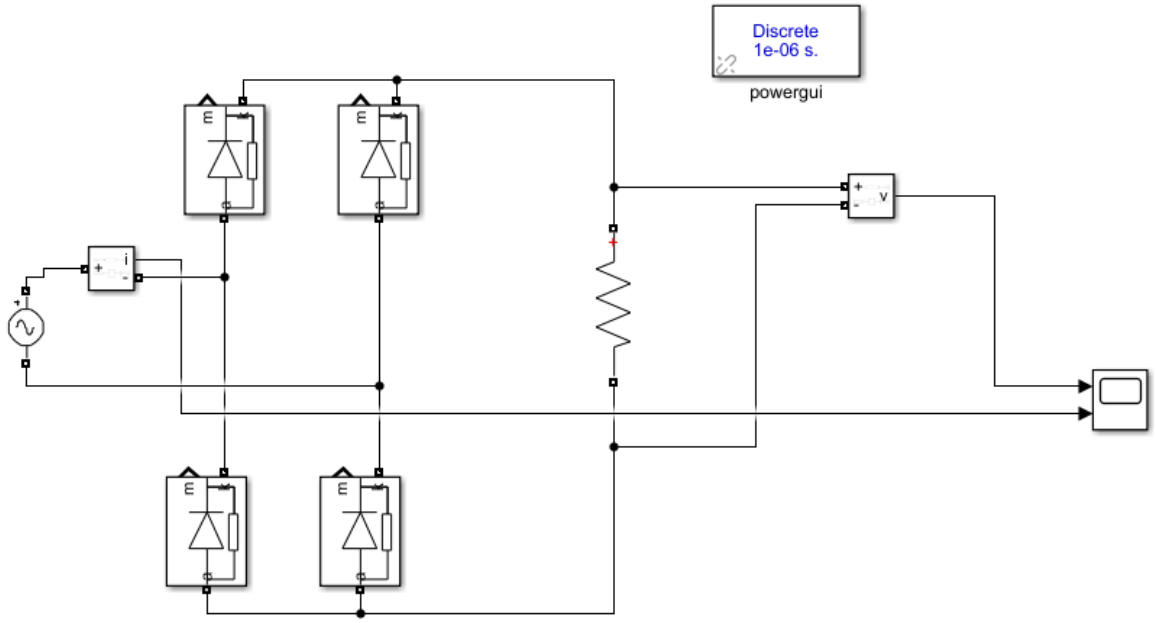

Figure 1: Circuit diagram for question 2.1 for resistive load of R = 25 Ω

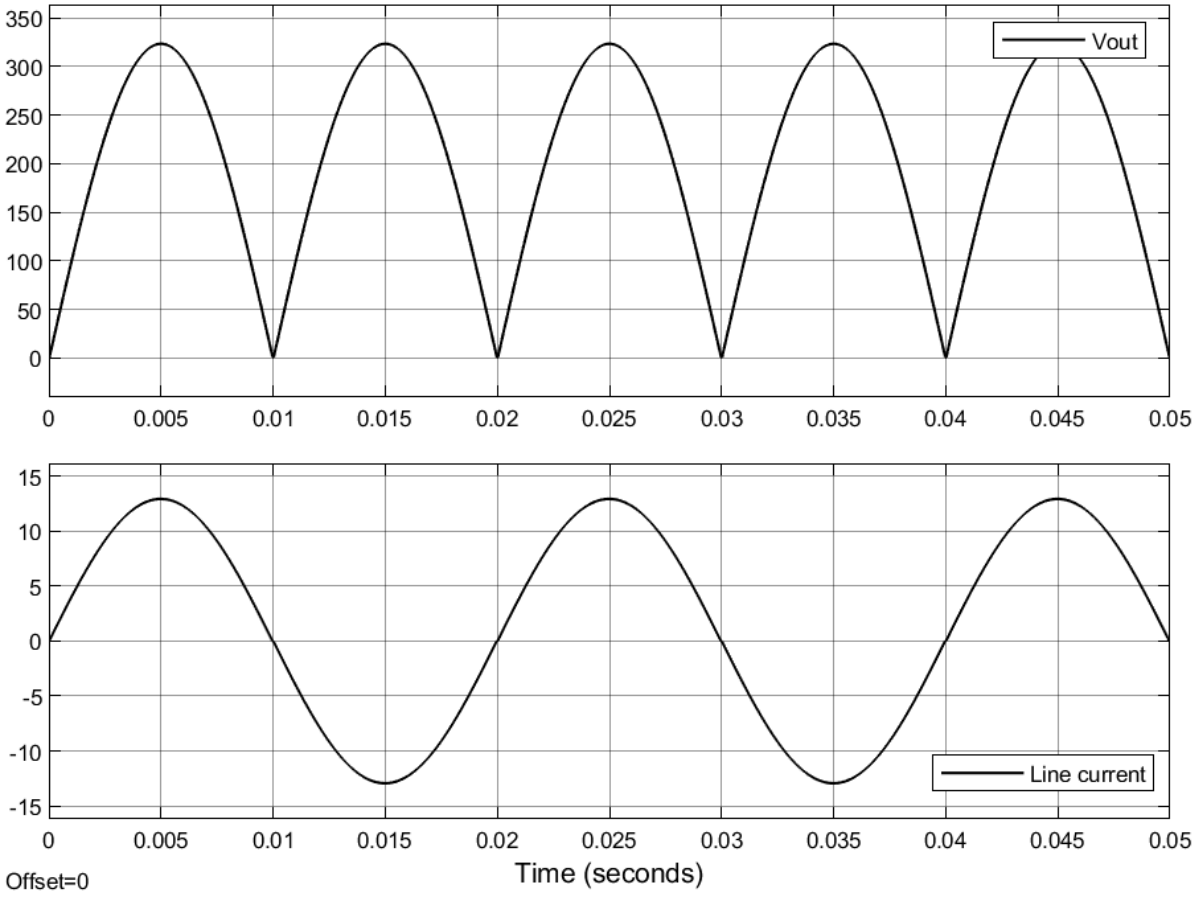

Figure 2: Output voltage and line current waveform for the circuit given in Figure 1, average output voltage=205.3 V

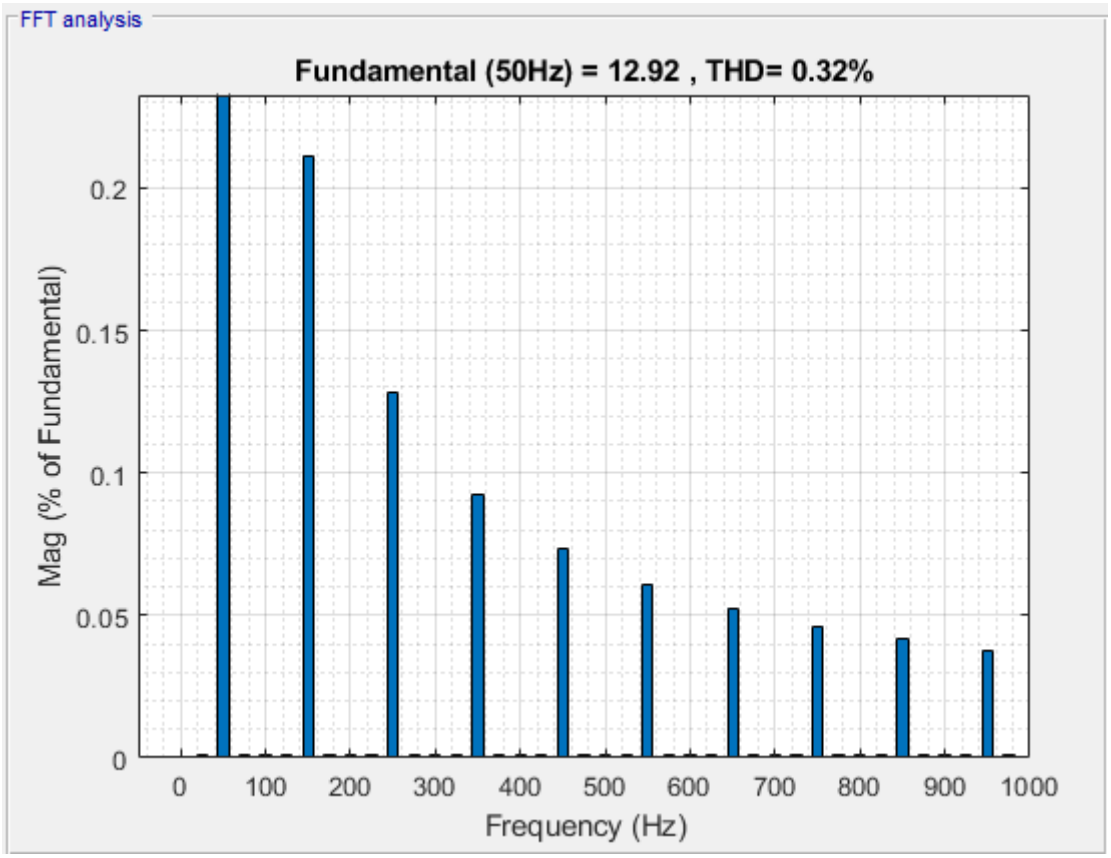

Figure 3: FFT analysis of the line current shown in Figure 2, THD=0.32%

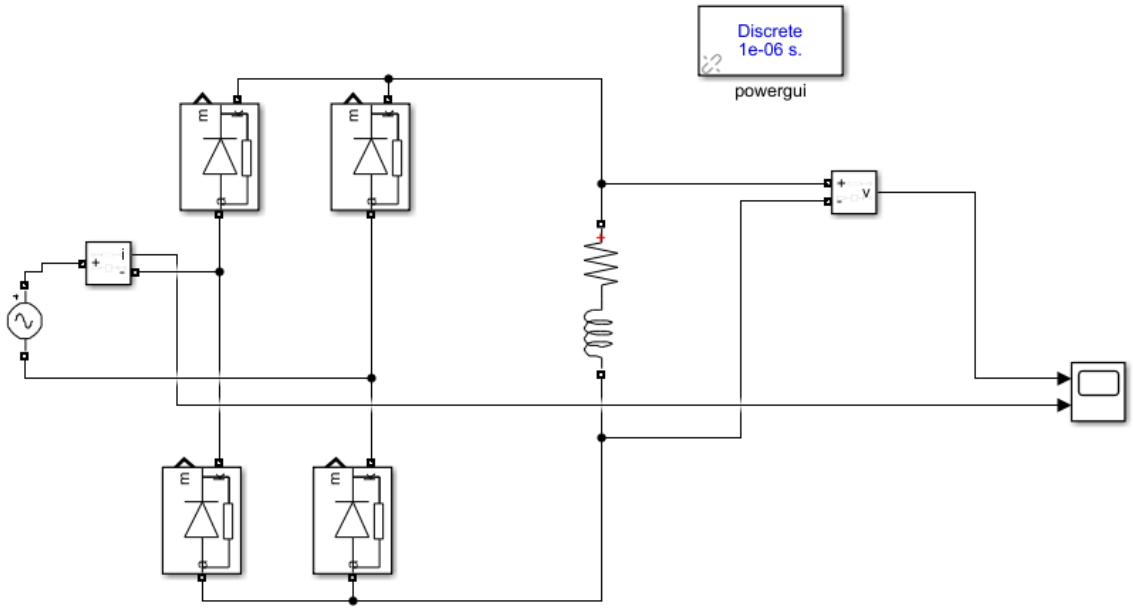

Figure 4: Circuit diagram for question 2.1 for RL load of R = 25 Ω , L = 10 mH

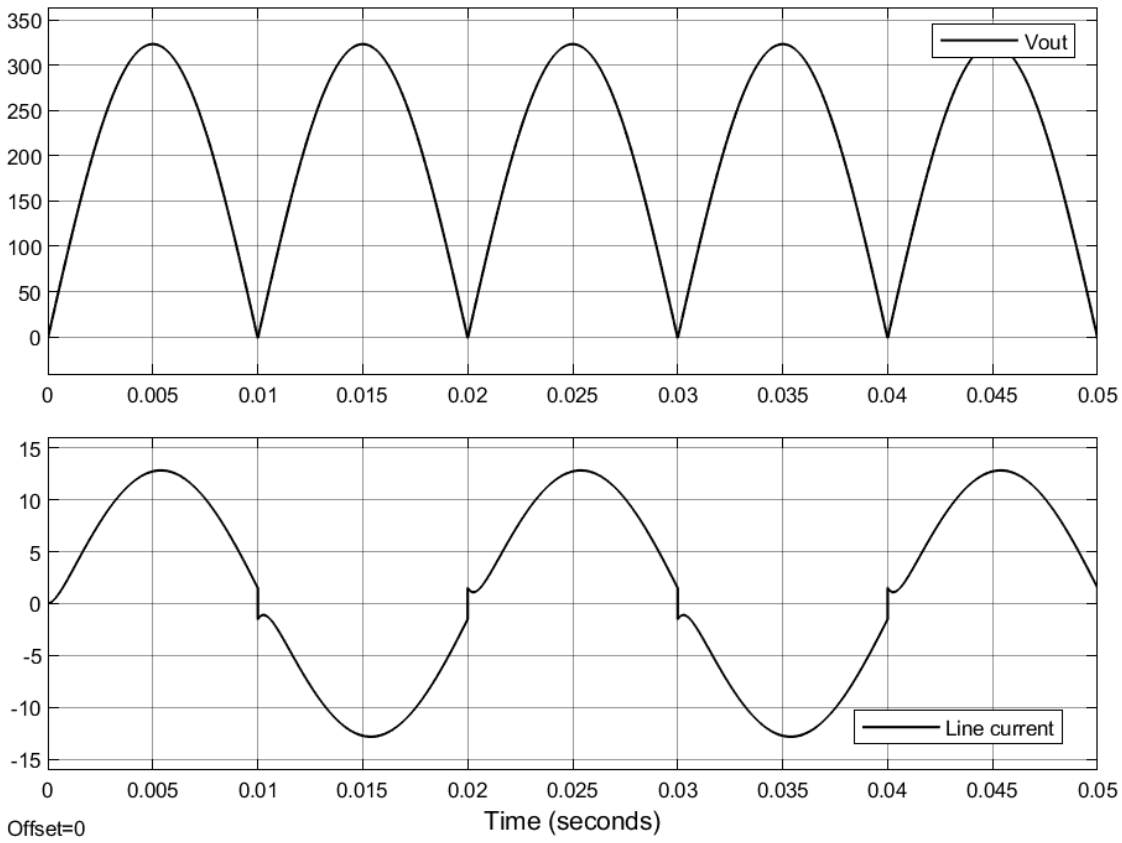

Figure 5: Output voltage and line current waveform for the circuit given in Figure 4, average output voltage=205.3 V

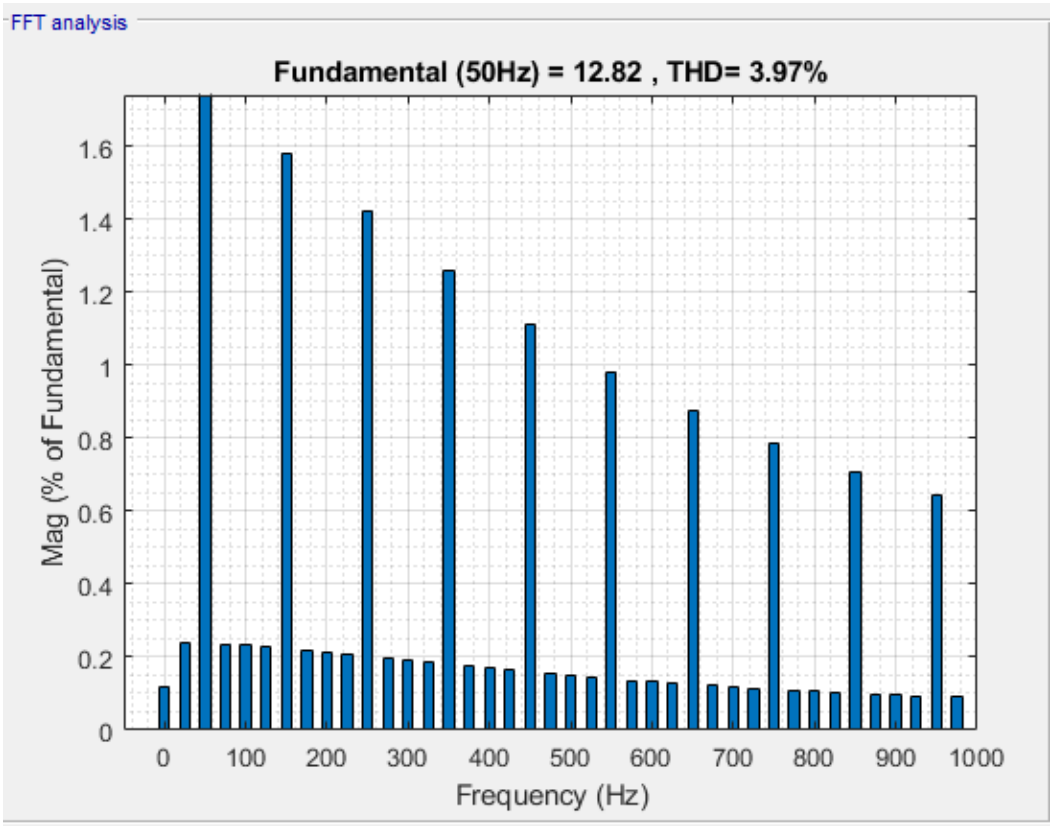

Figure 6: FFT analysis of the line current shown in Figure 5, THD=3.97%

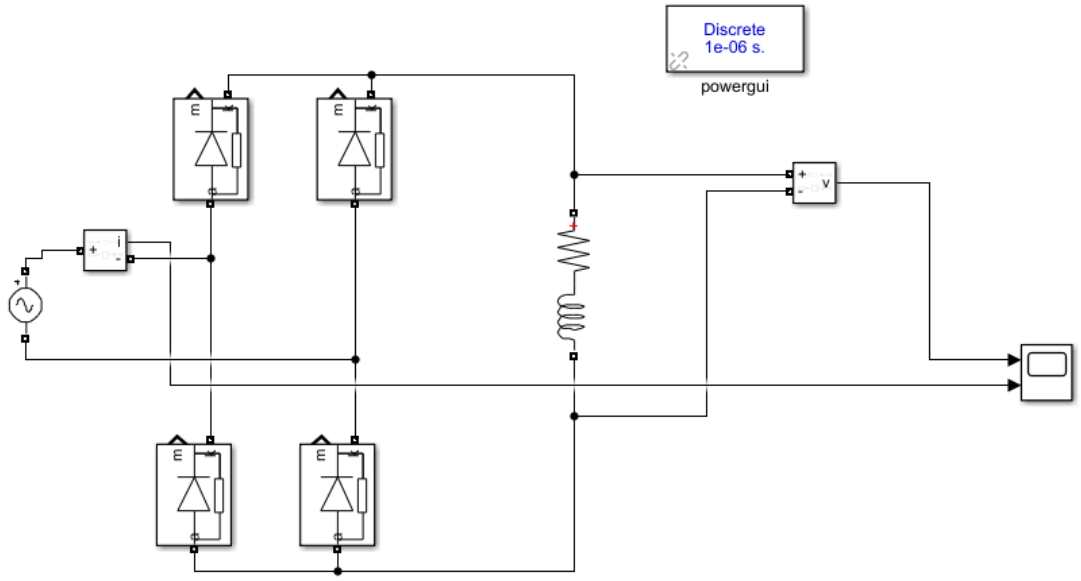

Figure 7: Circuit diagram for question 2.1 for RL load of R = 25 Ω , L = 1 H

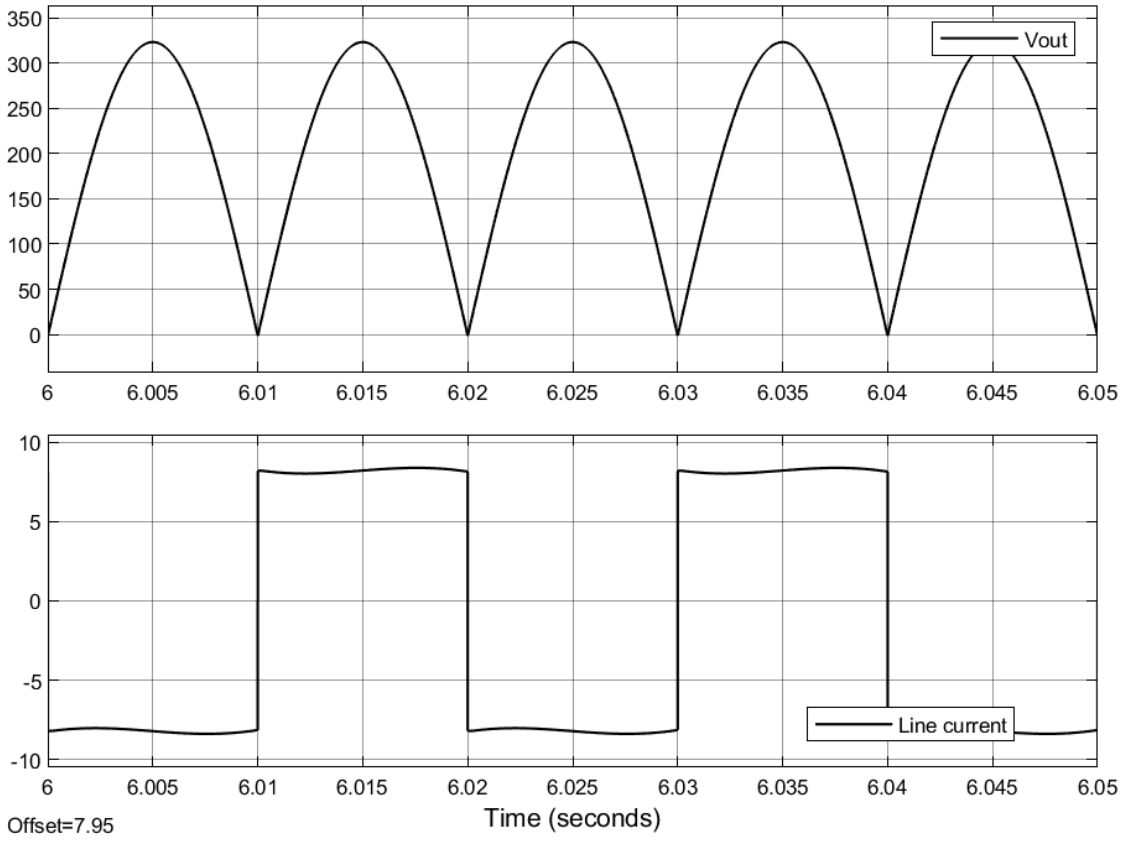

Figure 8: Output voltage and line current waveform for the circuit given in Figure 7, average output voltage=205.3 V

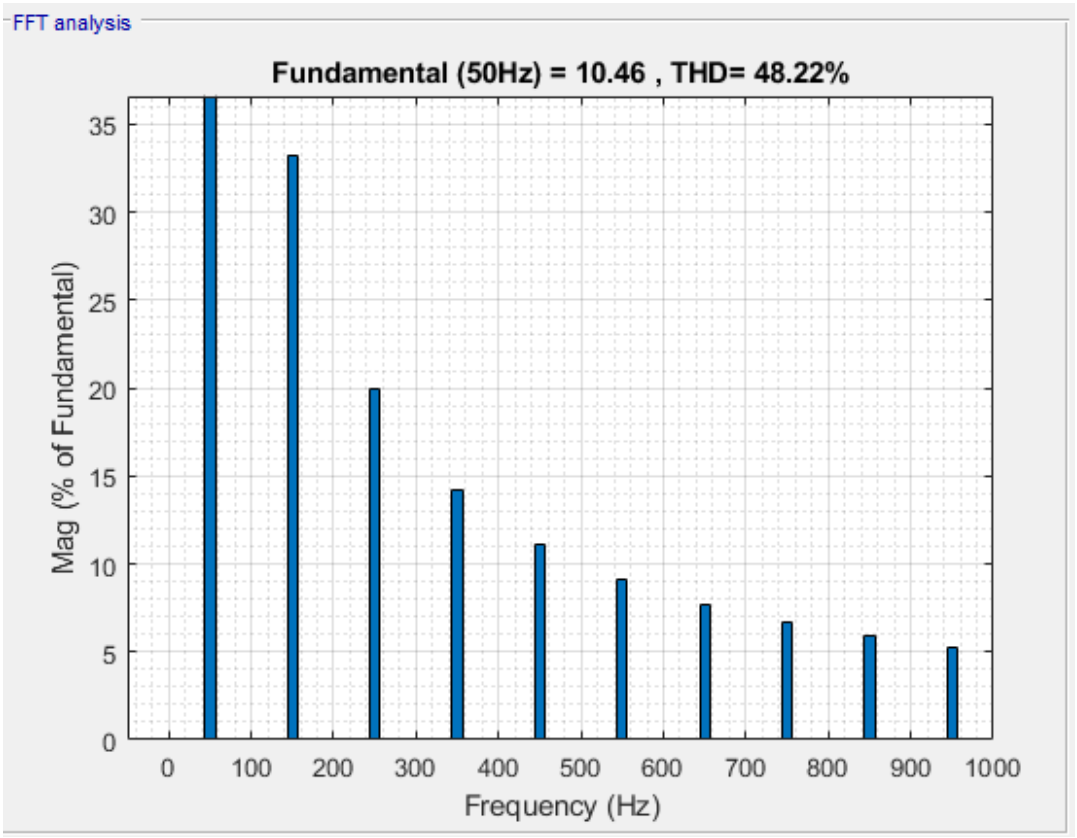

Figure 9: FFT analysis of the line current shown in Figure 8, THD=48.22%

As load inductance increases line current starts to turn into a square wave. At infinite load inductance, load behaves like ideal current source which draws a pure square wave from the grid.