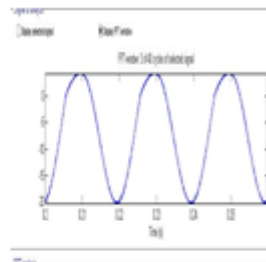
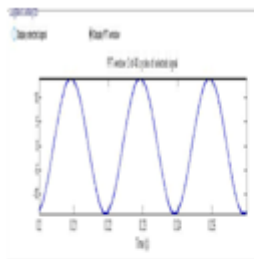


[Fig 5.1.2 a=30 without filter]

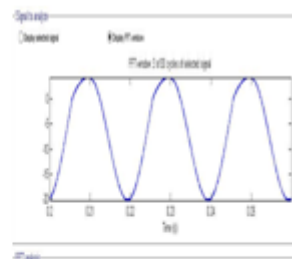


[fig 5.1.3 a=30 with filter]

At $a=30$ without filter there were a 5th harmonics 7th harmonics etc. and it can be reduced by using the filter we reduced the 3rd, 5th, 7th harmonics which is shown in the waveform.



[a=60 without filter]



[a=60 with filter]

Here, $a=60$ 3rd, 5th and 7th in short all odd harmonics are reduced. Without filter THD is 8.52% and after connecting the filter THD is 7.91%.

3. Advantages

- 1) The noise and the vibration of the appliance will be reduces of same amount.
- 2) The waveform distortion will be reduce.
- 3) Safety for non linear load.
- 4) Increase efficiency.
- 5) Can produce the high gains.

4. Disadvantages

- 1) Can require many components.

- 2) Cost is high
- 3) Complicated circuit

5. Application

- Industrial Application like motor drives for pumping the Water, chemicals, steam etc.
- For domestic purpose like lightening load, fans, TV, refrigerator etc.

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