Program: BC (CS)

Subject: Basic Electronics

Assignment Number: 04

Course Code: CSS-102

EDP Code: 101902011

Spring Semester 2019

Q.1 Give answers to each of the following:

1. What are the requirements for choke-input filter and how they can be achieved?
2. What are the disadvantages of choke-input filter?
3. How can we reduce peak-to-peak ripple in Capacitor-input filter?
4. What are the conditions for a clipper?
5. What is the condition for a clamper?

Q.2 Write short note on each of the following:

1. Rectification
2. Transformer
3. Peak inverse voltage (PIV)
4. Surge current
5. Slow-blow fuse

Q.3 Differentiate each of the following:

1. Half-wave, full-wave, and bridge rectifiers
2. Choke-input filter and capacitor-input filter
3. Rectifier diode and small signal diode

Q.4 Draw and explain each of the following diagrams/circuits:

1. Half-wave rectifier
2. Full-wave rectifier
3. Bridge rectifier
4. Choke-Input filter
5. Capacitor-Input filter
6. Positive clipper
7. Negative clipper
8. Biased Positive-negative clipper
9. Limiter

10. Positive clamper
11. Negative clamper
12. Peak-to-peak detector
13. Voltage doubler
14. Voltage tripler
15. Voltage quadrupler

Q.5 Solve each of the following:

1. Find the load voltage, load current, load power, and output frequency in Fig.01.
2. Find the load voltage, load current, load power, and output frequency in Fig.02.
3. Find the load voltage, load current, load power, and output frequency in Fig.03.
4. Find load voltage, load current, and ripple (V_R) in Figure 04.
5. Find load voltage, load current, and ripple (V_R) in Figure 05.
6. Find load voltage, load current, and ripple (V_R) in Figure 06.

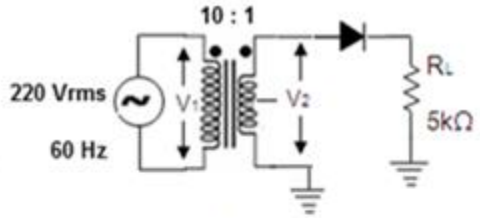

Figure 01

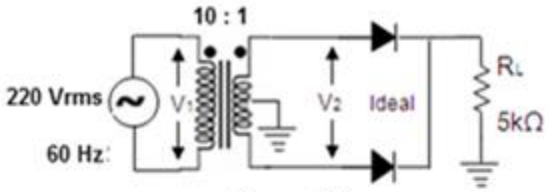

Figure 02

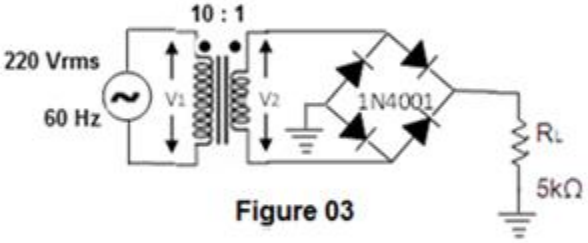

Figure 03

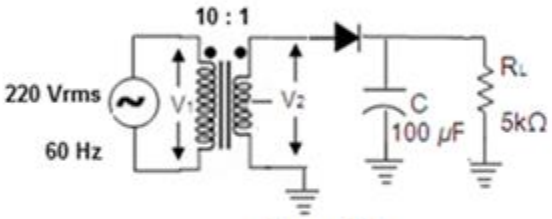

Figure 04

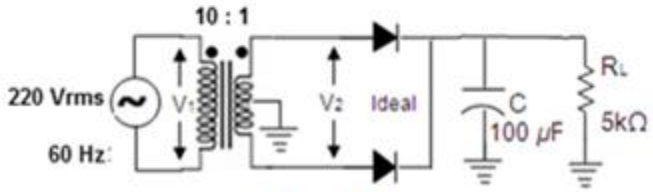

Figure 05

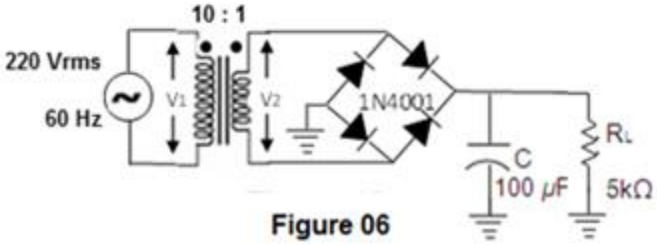

Figure 06