**3- Full wave rectifier**







1. A full wave voltage occurs on each half of the input cycle and has a frequency of twice the input frequency. A half wave voltage occurs once each input cycle and has a frequency equal to the input frequency.
2. AVG=2(60v)/$π$ =38.12 v

TRUE/FALSE QUIZ:

**1.** Each diode in a full-wave rectifier conducts for the entire input cycle. (F)

**2.** The output frequency of a full-wave rectifier is twice the input frequency. (T)

**3.** A bridge rectifier uses four diodes. (T)

**4.** In a bridge rectifier, two diodes conduct during each half cycle of the input. . (T)

**5.** The purpose of the capacitor filter in a rectifier is to convert ac to dc. (F)

**6.** The output voltage of a filtered rectifier always has some ripple voltage. (T)

**7**. A smaller filter capacitor reduces the ripple. (F)

1. The average value of a full-wave rectified voltage with a peak value of 75 V is

(a) 53 V (b) 47.8 V (c) 37.5 V (d) 23.9 V

2. When a 60 Hz sinusoidal voltage is applied to the input of a full-wave rectifier, the output frequency is

 (a) 120 Hz (b) 60 Hz (c) 240 Hz (d) 0 Hz

3. When the rms output voltage of a bridge full-wave rectifier is 20 V, the peak inverse voltage across the diodes is (neglecting the diode drop)

(a) 20 V (b) 40 V (c) 28.3 V (d) 56.6 V

4. A 60 V peak full-wave rectified voltage is applied to a capacitor-input filter. If f = 120 Hz, RL = 10 k , and C = 10u F, the ripple voltage is

(a) 0.6 V (b) 6 mV (c) 5.0 V (d) 2.88 V

5. If the load resistance of a capacitor-filtered full-wave rectifier is reduced, the ripple voltage

(a) increases (b) decreases (c) is not affected (d) has a different frequency



**15. (a)** 1.59 V **(b)** 63.7 V  **(c)** 16.4 V **(d)** 10.5 V