TEST #1

24/03/2021

1. The average value of a half-wave rectified voltage with a peak value of 200 V is
A. 127.3 V B. 141 V
C. 0 V D. 63.7 V

2. When a 60 Hz sinusoidal voltage is applied to the input of a half-wave rectifier, the output frequency is
A. 60 Hz B. 120 Hz
C. 0 Hz D. 30 Hz

3. The peak value of the input to a half-wave rectifier is 10 V. The approximate peak value of the output is
A. 10.7 V B. 9.3 V
C. 10 V D. 3.18 V

4. For the circuit in Question in Question 3, the diode must be able to withstand a reverse voltage of
A. 5 V B. 10 V
C. 20 V D. 3.18 V

5. The average value of a full-wave rectified voltage with a peak value of 75 V is
A. 37.5 V B. 23.9 V
C. 53 V D. 47.8 V

6. When a 60 Hz sinusoidal voltage is applied to the input of a full-wave rectifier, the output frequency is
A. 60 Hz B. 120 Hz
C. 240 Hz D. 0 Hz

7. The total secondary voltage in a center-tapped full-wave rectifier is 125 rms. Neglecting the diode drop, the rms output voltage is
A. 117 V B. 100 V
C. 62.5 V D. 125 V

8. When the peak output voltage is 100 V, the PIV for each diode in a center-tapped full-wave rectifier is (neglecting the diode drop)
A. 100 V B. 141 V
C. 200 V D. 50 V

9. 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. 28.3 V B. 20 V
C. 40 V D. 56.6 V

10. The ideal dc output voltage of a capacitor-input filter is equal to
A. the average value of the rectified voltage
B. the rms value of the rectified voltage
C. the peak value of the rectified voltage

11. A certain power supply filter produces an output with a ripple of 100 mV peak-to-peak and a dc value of 20 V. The ripple factor is

A. 0.005 B. 0.05

C. 0.02 D. 0.00005

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

A. 0.6 V B. 5.0 V

C. 6 mV D. 2.88 V

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

A. is not affected B. increases

C. decreases D. has a different frequency

14. Line regulation is determined by

A. zener current and load current

B. changes in load resistance and output voltage

C. load current

D. changes in output voltage and input voltage

15. Load regulations is determined by

A. changes in zener current and load current

B. changes in load current and output voltage

C. changes in load current and input voltage

D. changes in load resistance and input voltage

16. A 10 V peak-to-peak sinusoidal voltage is applied across a silicon diode and series resistor. The maximum voltage across the diode is

A. 0.7 V B. 10 V

C. 9.3 V D. 5 V

E. 4.3 V

17. If the input voltage to a voltage tripler has an rms value of 12 V, the dc output voltage is approximately

A. 36 V B. 33.9 V

C. 32.4 V D. 50.9 V

18. If one of the diode in a bridge full-wave rectifier opens, the output is

A. one-fourth the amplitude of the input voltage B. 0 V

C. 120 Hz voltage D. a half-wave rectified voltage

19. If you are checking a 60 Hz full-wave bridge rectifier and observe that the output has a 60 Hz ripple

A. the filter capacitor is leaky

B. the transformer secondary is shorted

C. there is an open diode

D. the circuit is working properly

20. The cathode of zener diode in a voltage regulator is normally

A. more negative than the anode B. more positive than the anode

C. at + 0.7 V D. grounded