

TI20 - Pre-Instructional Survey

Name: _____ Date: _____

1. What is the ripple frequency for a full wave rectifier?
 - a. 60 Hz
 - b. 120 Hz
 - c. 220 Hz
 - d. 360 Hz

2. A diode acts as a(n) _____ for electrical current.
 - a. Vacuum tank
 - b. Line amplifier
 - c. Check valve
 - d. All of the above

3. An operational amplifier may have:
 - a. Differential input.
 - b. Multiple stages.
 - c. Very high gain.
 - d. All of the above

4. A Zener regulator maintains a constant load voltage:
 - a. By using a controlled avalanche.
 - b. Without a Zener resistor.
 - c. By manual adjustments.
 - d. All of the above

5. A Zener diode is designed to fail in the _____ mode.
 - a. Shorted
 - b. Open
 - c. Inductive
 - d. Capacitive

6. Hall effect voltage is caused by:
- Changes in capacitance.
 - Changes in inductance.
 - Magnetic field.
 - Harmonics.
7. An oscillator:
- Converts AC to DC.
 - Converts DC to AC.
 - Requires an inductor.
 - Requires a crystal.
8. As used in instrumentation, an Op-Amp requires a _____ power supply.
- Negative
 - Positive
 - Split
 - Solid state
9. An SCR operates over how many alternations per cycle, assuming it has been triggered?
- 0
 - 1
 - 2
 - 3
10. A TRIAC operates over how many alternations per cycle, assuming it has been triggered?
- 0
 - 1
 - 2
 - 3
11. What is the ripple frequency for a bridge rectifier?
- 60 Hz
 - 90 Hz
 - 120 Hz
 - 180 Hz

12. Machine language is based on _____ code
- Hexadecimal
 - Binary
 - Octal
 - Banded
13. If a non-inverting amplifier has an R_f of 12 K ohms and $R_{in} = 12$ K ohms, the voltage gain is:
- 1.
 - 2.
 - 3.
 - 4.
14. Which filter configuration, when correctly connected, has the best performance for ripple voltage?
- Capacitive input
 - PI filter with resistor
 - PI filter with inductor
 - IC regulator with capacitors
15. A varactor diode mainly acts as a:
- Capacitor.
 - Switch.
 - Resistor.
 - Power supply.

TI20 - Pre-Instructional Survey Answer Sheet

1. b
2. c
3. d
4. a
5. a
6. c
7. b
8. c
9. b
10. c
11. c
12. b
13. b
14. d
15. a