1. Which of the following is not an essential element of a dc power supply
   a. Rectifier
   b. Filter
   c. Voltage regulator
   d. Voltage amplifier

2. What is true about the breakdown voltage in a Zener diode?
   a. It decreases when current increases.
   b. It destroys the diode.
   c. It equals the current times the resistance.
   d. It is approximately constant.

3. Which of these is the best description of a Zener diode?
   a. It is a rectifier diode.
   b. It is a constant voltage device.
   c. It is a constant current device.
   d. It works in the forward region.

4. A Zener diode
   a. Is a battery
   b. Has a constant voltage in the breakdown region
   c. Has a barrier potential of 1 V
   d. Is forward biased

5. The voltage across the Zener resistance is usually
   a. Small
   b. Large
   c. Measured in volts
   d. Subtracted from the breakdown voltage

6. If the series resistance increases in an unloaded Zener regulator, the Zener current
   a. Decreases
   b. Stays the same
   c. Increases
   d. Equals the voltage divided by the resistance
7. In the second approximation, the total voltage across the Zener diode is the sum of the breakdown voltage and the voltage across the
   a. Source
   b. Series resistor
   c. Zener resistance
   d. Zener diode

8. The load voltage is approximately constant when a Zener diode is
   a. Forward biased
   b. Reverse biased
   c. Operating in the breakdown region
   d. Unbiased

9. In a loaded Zener regulator, which is the largest current?
   a. Series current
   b. Zener current
   c. Load current
   d. None of these

10. If the load resistance increases in a Zener regulator, the Zener current
    a. Decreases
    b. Stays the same
    c. Increases
    d.Equals the source voltage divided by series resistance

11. When the source voltage increases in a Zener regulator, which of these currents remain approximately constant?
    a. Series current
    b. Zener current
    c. Load current
    d. None of these

12. If the Zener diode in a Zener regulator is connected with the wrong polarity, the load voltage will be closest to
    a. 0.7 V
    b. 10 V
    c. 14 V
    d. 18 V

13. A voltage regulator is a circuit which
    a. Converts the ac voltage to dc voltage
    b. Smoothens the ac variation in dc output voltage
    c. Maintains a constant dc output voltage inspite of the fluctuations in ac input voltage or load current
    d. None of the above
14. The percentage voltage regulation of voltage supply providing 100V unloaded and 95V at full load is
   a. 5.3%  
   b. 5.0%  
   c. 0.53%  
   d. None of the above

15. Which of the following voltage regulator is preferred for providing large values of load current
   a. Zener diode shunt regulator  
   b. Transistor series regulator  
   c. Transistor shunt regulator  
   d. None of the above

16. The main job of a voltage regulator is to provide a nearly ................. output voltage.
   a. sinusoidal  
   b. constant  
   c. smooth  
   d. fluctuating

17. A 10-V dc regulator power supply has a regulation of 0.005 per cent. Its output voltage will vary within an envelope of ................millivolt.
   a. ±2.5  
   b. ±0.5  
   c. ±5  
   d. ±0.05

18. An ideal voltage regulator has a voltage regulation of
   a. 1  
   b. 100  
   c. 50  
   d. 0

19. In a Zener diode shunt voltage regulator, the diode regulates so long as it is kept in .............condition.
   a. forward  
   b. reverse  
   c. loaded  
   d. unloaded

20. A transistor series voltage regulator is called emitter-follower regulator because the emitter of the pass transistor follows the ...........voltage.
   a. output  
   b. input  
   c. base  
   d. collector
|   | 1.  | 2.  | 3.  | 4.  | 5.  | 6.  | 7.  | 8.  | 9.  | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|    |
|   | (d) | (d) | (b) | (b) | (a) | (a) | (c) | (c) | (c) | (c) | (c) | (a) | (c) | (a) | (b) | (b) | (a) | (d) | (b) | (c) |    |