

## Multiple Choice Practice Science 10

1. What is the potential difference of a circuit whose current is 375 mA and whose resistance is 150 Ohms?
  - a. 56250 V
  - b. 56.25 V
  - c. 515 V
  - d. .4 V
  
2. The driver in a gear train has a diameter of 20 cm with a speed of 50 rpm. What is the speed of the driven component if its diameter is 40 cm?
  - a. 100 rpm
  - b. 50 rpm
  - c. 25 rpm
  - d. 200 rpm
  
3. Calculate power, in kW, if voltage is 25 v and current is 100 A.
  - a. 2500
  - b. 2.5
  - c. 2500000
  - d. .0025
  
4. Using the right hand rule on a straight wire, your thumb points
  - a. North
  - b. South
  - c. From positive to negative
  - d. From negative to positive

5. If power is 3000 W, and time is 90 minutes, what is the energy cost if the rate is \$ .07/kWh?
- 0.32\$
  - 18.90\$
  - 315\$
  - 8.11\$
6. A disruption at the primary consumer level would initially
- Increase the producer population
  - Decrease the decomposer population
  - Decrease the population of all consumers above
  - All of the above
7. If there is 200 J of lost energy and there is 1000 J of consumer energy, the energy efficiency is
- 20%
  - 80%
  - 100%
  - Impossible to calculate
8. A motion transmission system that is non reversible is
- Gear train
  - Chain and sprocket
  - Friction gear
  - Worm and worm
9. The population density of a particular species over 50000 km<sup>2</sup> with 5 per 2 m<sup>2</sup> is:
- 125000
  - 20000
  - 75000
  - 175000

**10. Factors that increase conductivity are:**

- a. Long wires**
- b. Aluminum wires**
- c. Warm temperatures**
- d. Wide diameter**

**11. Control in a circuit refers to:**

- a. Fuses**
- b. Energy transformation**
- c. Switches**
- d. Power supplies**

**12. Material for composite hockey sticks are used to maximize:**

- a. Torsion**
- b. Compression**
- c. Deflection**
- d. Tension**

**13. Biological Cycles indicate:**

- a. Predator prey relationships**
- b. Mutualism**
- c. Parasitism**
- d. The balance between abiotic and biotic factors**

**14. Biodiversity is high if**

- a. Species richness is high
- b. Relative abundance of different species is similar
- c. Choice a and b
- d. None of the above

**15. In trophic networks,**

- a. Energy is conserved
- b. Mass is conserved
- c. Energy and mass are conserved
- d. None of the above

**16. A forest fire is**

- a. A natural disturbance
- b. A human disturbance
- c. Either a or b
- d. None of the above

**17. Reversibility in motion transformation systems occur in**

- a. Screw gear type 1
- b. Screw gear type 2
- c. Slider crank mechanisms
- d. Cam and followers

**18. Which of the following are set up in parallel?**

- a. Ammeters
- b. Breakers
- c. Switches
- d. Voltmeters