FINAL S-T

Multiple Choice Practice Science 10

1. What is the potential difference of a circuit whose current in 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?
    a. 0.32$
    b. 18.90$
    c. 315$
    d. 8.11$

6. A disruption at the primary consumer level would initially
    a. Increase the producer population
    b. Decrease the decomposer population
    c. Decrease the population of all consumers above
    d. 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
    a. 20%
    b. 80%
    c. 100%
    d. Impossible to calculate

8. A motion transmission system that is non reversible is
    a. Gear train
    b. Chain and sprocket
    c. Friction gear
    d. Worm and worm

9. The population density of a particular species over 50000 km^2 with 5 per 2 m^2 is:
    a. 125000
    b. 20000
    c. 75000
    d. 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

19. Which of the following are electrolytes?
A. HCl
B. NaOH
C. KCl
D. All of above

20. An electromagnet can be strengthened by
A. an aluminum core
B. constant current
C. increasing turns of a solenoid
D. decreasing wire length

21. $H_2SO_4 + NaOH \longrightarrow Na_2SO_4 + H_2O$
The coefficient of the base in a <u>balanced</u> equation?
A 1
B 2
C 3
D 4

22. Melting glaciers
A. increase water levels
B. decrease salinity
C. change thermohaline circulation
D. all of above

23. Greenhouse gas emissions are increased by
A. burning of fossil fuels
B. photosynthesis
C. geothermal energy
D. frozen permafrost

24. 6g of solute in 2000 ml = _____ ppm

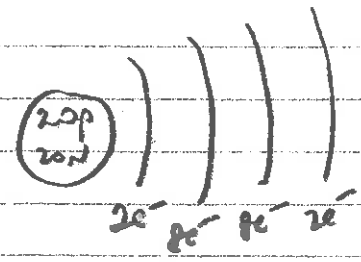
A 300
B 3000
C 30
D 3

25. An element with a valence of 8 is an
A Alkali metal
B Alkaline earth metal
C Halogen
D Noble gas

26. $HCl + NaOH \longrightarrow NaCl + H_2O$
10g 25g 5g
What mass of water is produced?
A 35g
B 40g
C 20g
D 25g

27. K has
A 19 neutrons
B 20 protons + 20 electrons
C 3 shells
D 1 valence electron

28.



is:
A Alkaline Earth metal
B Alkali metal
C Metalloid
D Halogen

29. Mg, as an ion, is :

A Mg^{+}

B Mg^{2+}

C Mg^{-}

D Mg^{2-}

30. The screw lid on a jar exhibits which guiding control?

A rotational

B helical

C translational

D shifting

31. Melting permafrost

A. decreases productivity

B. improves landscape

C. increase C emissions

D. reduces active layer

32. Melting pack ice

A. causes flooding

B. increases salinity

C. decreases habitat space

D. a fresh water phenomenon

33. Non renewable source of energy are:

A. Tidal + Solar
B. Hydraulic + wind
C. Nuclear
D. Fossil Fuels

i) A + B ii) C + D iii) A, B + C iv) all of above

34. Static electricity involves the transfer of

A protons
B electrons
C neutrons
D magnets

35. Metals are:

A ductile + malleable
B react with acids
C solids
D on right side of periodic table

i) A ii) A + B iii) A, B + C iv) all of above

36. Plastics can:

A. fade
B. react with acids
C. break
D. all of above

37. 3 N_2 as a particle model is

A. 
B. 
C. 
D.