Physics Final Exam Study Guide 2014

1. When an object’s distance from another object is changing…WHEN IT’S IN MOTION.
2. The basic SI unit of length is the…METER.
3. Speed equals distance divided by…TIME.
4. When you know both the speed and direction of an object’s motion, you know the…VELOCITY.
5. You can show the motion of an object on a line graph in which you plot distance against…TIME.
6. The steepness of a line on a graph is called the…SLOPE
7. The rate at which velocity changes is called…ACCELERATION.
8. Which of these is an example of deceleration? A CAR AT A STOPLIGHT.
9. To determine the acceleration rate of an object you must calculate the change in speed during each unit of…TIME.
10. If speed is measured in kilometers per hour and time is measured in hours, the unit of acceleration is…KM/HR/HR
11. Average speed is…TOTAL DISTANCE/TOTAL TIME
12. A place or object used for comparison to determine if something is in motion is called…REFERENCE POINT
13. On a graph showing distance versus time, a horizontal line represents an object that is…NOT MOVING AT ALL
14. If you know the distance an object has traveled in a certain amount of time, you can determine…SPEED OF AN OBJECT
15. It is rare for any motion to…STAY THE SAMEFOR VERY LONG.
16. Which of the following is an example of exerting a force? HAMMER HITS A NAIL.
17. What happens when two forces act in the same direction? THEY ADD TOGETHER
18. The tendency of an object to resist change in its motion is known as…INERTIA
19. The greater the mass of an object…THE GREATER ITS INERTIA
20. The force of gravity on a person or object on the surface of a planet is called…WEIGHT
21. The force that one surface exerts on another when the two rub against each other is called…FRICTION
22. Which of the following is an example of rolling friction? SKATEBOARD/BIKE
23. The law of universal gravitation states that any two objects in the universe, without exception…ATTRACT TOWARD EACH OTHER
24. The product of an object’s mass and velocity is called its…MOMENTUM
25. According to the law of conservation of momentum, when two objects collide in the absence of friction, MOMENTUM IS NOT LOST
26. In physical science, a push or pull is called a(n)…FORCE
27. The amount of matter is an object is called its…MASS
28. According to Newton’s 3rd Law of Motion, when a hammer strikes and exerts force on a nail, the nail…EXERTS AN EQUAL FORCE
29. The SI unit for force is the…NEWTON
30. For work to be done on an object…THE OBJECT MUST MOVE
31. Which of these is an example of work being done on an object? PUSHING SOMETHING
32. If you exert a force of 20 newtons to push a desk 10 meters, how much work do you do on the desk? 200J
33. Work is measured in…JOULES
34. What do machines do? CHANGE AMOUNT OF FORCE YOU EXERT
35. Pulling down on a rope to hoist a sail on a sailboat is an example of a machine…CHANGING THE DIRECTION OVER WHICH A FORCE IS EXERTED
36. The mechanical advantage of a machine is the number of times a machine increases…THE FORCE EXERTED ON THE MACHINE
37. An ideal machine would have an efficiency of…100%
38. A ramp is an example of a simple machine called a(n)…INCLINED PLANE
39. Which of these is an example of a 3rd class lever? FISHING POLE
40. One example of a compound machine is a…BICYCLE
41. Which of these could be considered an inclined plane wrapped around a cylinder? SCREW
42. The fixed point that a lever pivots around is called the…FULCRUM
43. In order to do work on an object, the force you exert must be…IN THE SAME DIRECTION OF THE OBJECT
44. Work equals force times…DISTANCE
45. When you raise or lower a flag on a flagpole, you are using a(n)…PULLEY
46. Most of the machines in your body consist of bones and muscles and are called…LEVERS
47. Power is measured in units called…WATTS
48. The wedge, screw and lever are all…SIMPLE MACHINES
49. A disturbance that transfers energy from place to place is called a….WAVE
50. The highest parts of a transverse wave are called…CRESTS
51. Waves that move the particles of the medium parallel to the direction in which the waves are traveling are called…LONGITUDINAL WAVES
52. The maximum distance that the particles of a medium move from the rest position is the…AMPLITUDE
53. The distance between two corresponding parts of a wave is the wave’s…WAVELENGHTH
54. The speed of a wave is its wavelength multiplied by its…FREQUENCY
55. The bending of waves due to a change is speed is called…REFRACTION
56. The bending of waves around the edge of a barrier is known as…DIFFRACTION
57. The interaction between two waves that meet is called…INTERFERENCE
58. Waves produced by earthquakes are called…SEISMIC WAVES
59. Longitudinal seismic waves are known as…PRIMARY WAVES
60. Secondary waves CANNOT travel through…LIQUIDS
61. Which waves arrive at a seismograph 1st? P-WAVES
62. Frequency is measured in units called…HERTZ
63. As in the case of unlike magnetic poles, unlike electric charges…ATTRACT EACH OTHER
64. The buildup of charges on an object is called…STATIC ELECTRICITY
65. The loss of static electricity as electric charges move off an object is called…STATIC DISCHARGE
66. Suppose you acquire a positive charge from walking across a carpet. You then touch a doorknob and receive a shock. This leaves you…ELECTRICALLY NEUTRAL
67. The type of energy that depends on position is called…POTENTIAL ENERGY
68. What causes charges to move in circuit? VOLTAGE
69. If an electric water heater uses 40kW of power and rus for 8 hours, what is the total amount of energy used?320 KILOWATT HOURS
70. According to Ohm’s Law, resistance is equal to voltage divided by…CURRENT
71. According to Ohm’s Law, what is the resistance of a light if the voltage is 9.0 volts and the current is 0.30 amps? 30 OHMS
72. In a series circuit with 3 bulbs…ALL BULBS BECOME DIMMER
73. In a series circuit with three bulbs, adding another bulb will…THE BULBS WILL DIM MORE
74. In a parallel circuit with 3 bulbs…CURRENT FROM EACH BULB HAS IT OWN PATH
75. A connection that allows current to take the path of least resistance is called a…SHORT CIRCUIT
76. The charge on a proton is…POSITIVE AND THE CHARGE ON THE ELECTRON IS NEGATIVE
77. An example of an insulator is…RUBBER
78. Without wires, electronic signals can be carried over long distances…ELECTROMAGNETIC WAVES
79. Kinetic energy increases as…MASS AND VELOCITY INCREASES
80. Which of the following has kinetic energy? BOWLING BALL
81. Which body parts act as the fulcrums of levers? JOINTS
82. The law of conservation of energy states that when one form of energy is converted into another…NO ENERGY IS STORED IN THE PROCESS
83. Name the type of wave that has the highest frequency. GAMMA
84. Name the type of wave labeled C. DO ON THE TEST
85. Name the type of wave that has the greatest potential energy. GAMMA
86. Which letter shows the type of wave that can be seen by the human eye? DO ON TEST
87. Name the type of wave labeled A. DO ON TEST
88. Which letter indicated X-rays? DO ON TEST
89. In what class of lever is the direction of the input force opposite to the direction of the output force? 1ST CLASS LEVERS
90. What class of levers is a pair of scissors? Explain. 1ST CLASS YOU EXPLAIN.
91. Which class of lever does not multiply the input force? What is its advantage?3RD CLASS YOU EXPLAIN
92. To which class of lever does each of the following belong (a) fishing pole; (b) wheelbarrow, (c) bottle opener (d) pliers? DO ON TEST
93. What would happen to the ideal mechanical advantage of the lever in diagram B if the output force were moved farther from the fulcrum? DO ON TEST
94. Why would it be impossible to build machine D? DO ON TEST
95. Which circuit A or B represents a series circuit? DO ON TEST
96. Which circuit A or B represents a parallel circuit? DO ON TEST
97. Which circuit diagram represents circuit B? DO ON TEST
98. What will happen to bulb 1 in circuit A if the switch is opened? DO ON TEST
99. Will removing bulb 1 in circuit B cause bulb 3 to go out? Explain? DO ON TEST
100. What will happen to bulb 2 in circuit diagram D if bulb 1 burns out? DO ON TEST