SAINT JOSEPH'S PREPARATORY SCHOOL
PHYSICS TEST QUESTIONS.....T P FITZPATRICK
SIMPLE HARMONIC MOTION and WAVES

1. Which two of the following physical characteristics determine the period of oscillation of an object undergoing simple harmonic motion: mass, amplitude, spring constant, distance from equilibrium, kinetic energy, potential energy?
2. What kind of wave form describes simple harmonic motion?
3. If $A\omega$ is the maximum velocity of an object moving with Simple Harmonic Motion, what is the expression for the maximum acceleration of the same object?
4. If $A\omega$ is the maximum velocity of an object moving with Simple Harmonic Motion, what is the expression for the maximum displacement from equilibrium of the same object?
5. What is simple harmonic motion a projection of?
6. What is the formula for calculating the period of simple harmonic motion for a weight suspended on a spring?
7. What must be directly proportional to displacement from equilibrium in order for simple harmonic motion to occur?
8. What is the definition of amplitude?
9. What is the formula for calculating the period of a pendulum?
10. Why is a pendulum not exactly simple harmonic motion?
11. A wave in which the motion of the medium is perpendicular to the motion of the wave is called what?
12. How are period and frequency related?
13. What two other characteristics of a wave determine its wavelength? State the formula that relates the three quantities.
14. The energy content of a wave is proportional to the square of what two properties of the wave?
15. When two waves travel through the same medium simultaneously, the actual position of each particle of the medium is the vector sum of the positions that would result from each wave. What is the name given to this principal?
16. As two or more waves pass through each other in a medium, sometimes their effects combine to produce a greater result. What is this called?
17. As two or more waves pass through each other in a medium, sometimes their effects cancel out. What is this called?
18. A wave in which the motion of the medium is parallel to the motion of the disturbance is called what?
19. Describe a standing wave.
20. What wave actions produce standing waves?
21. What is the name given to the phenomenon that occurs when wave energy is easily transferred from one object to another because they tend to vibrate at the same frequency?
22. When longitudinal waves pass through a medium, what are the names given to the parts of the waves that generally correspond to the crests and troughs?
23. What is a node?
24. What is an anti-node?
25. Under what circumstances is it appropriate to consider a pendulum to be undergoing simple harmonic motion?
26. When longitudinal waves pass through a medium, there are areas of compression and rarefaction associated with the waves. What are the corresponding parts of a transverse wave?
27. When transverse waves pass through a medium, there are crests and troughs associated with the waves. What are the corresponding parts of a longitudinal wave?