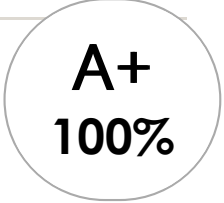


## 20 Multiple choice questions



**A+**  
**100%**

1. the range of electromagnetic waves from high frequency gamma waves to low frequency radio waves
  - a. electromagnetic radiation
  - b. **CORRECT: electromagnetic spectrum**
  - c. periodic motion
  - d. microwaves
  
2. electromagnetic waves with wavelengths ranging from 1 mm to 0.1 mm
  - a. laser
  - b. ionosphere
  - c. phase
  - d. **CORRECT: microwaves**
  
3. a system that uses satellites to determine position on the Earth
  - a. longitudinal wave
  - b. **CORRECT: global positioning system (GPS)**
  - c. optical fibre
  - d. nodal lines
  
4. a point at which light rays meet or appear to diverge from
  - a. **CORRECT: focus**
  - b. normal
  - c. pitch
  - d. phase
  
5. an acronym for Light Amplification by the Stimulated Emission of Radiation; a source of intense coherent light
  - a. focus
  - b. pitch
  - c. phase
  - d. **CORRECT: laser**

6. a spherical shell of ionised gas surrounding the Earth; can be used to reflect long-wave radio waves
  - a. laser
  - b. microwaves
  - c. **CORRECT: ionosphere**
  - d. phase
  
7. the alteration of some electronic or acoustic parameter by another
  - a. medium
  - b. **CORRECT: modulation**
  - c. focus
  - d. nodal lines
  
8. a wave in which the particles vibrate parallel to the direction of energy transfer
  - a. microwaves
  - b. nodal lines
  - c. optical fibre
  - d. **CORRECT: longitudinal wave**
  
9. number of waves to pass a point per second; the number of oscillations of a particle per second
  - a. phase
  - b. focus
  - c. **CORRECT: frequency**
  - d. period
  
10. lines joining points of destructive interference
  - a. modulation
  - b. **CORRECT: nodal lines**
  - c. normal
  - d. medium

11. traverse waves composed of alternating electric and magnetic fields, the components of which are perpendicular to each other and to the direction of the energy flow
  - a. **CORRECT: electromagnetic radiation**
  - b. electromagnetic spectrum
  - c. periodic motion
  - d. frequency modulation
  
12. a region through which a wave propagates
  - a. **CORRECT: medium**
  - b. phase
  - c. period
  - d. focus
  
13. a type of modulation where the frequency of the carrier wave is altered by an imposed signal
  - a. modulation
  - b. frequency
  - c. **CORRECT: frequency modulation**
  - d. periodic motion
  
14. a relationship in which one quantity is directly proportional to the inverse of another quantity squared
  - a. frequency
  - b. ionosphere
  - c. normal
  - d. **CORRECT: inverse square law**
  
15. the time for one wave to pass a point; the time for a particle executing simple harmonic motion to complete one oscillation
  - a. normal
  - b. pitch
  - c. **CORRECT: period**
  - d. medium

16. motion which repeats itself at regular intervals of time
- CORRECT: periodic motion**
  - period
  - modulation
  - medium
17. a quantity which tells us what a particle undergoing periodic motion is doing
- laser
  - CORRECT: phase**
  - period
  - pitch
18. a line drawn at right angles to another line or surface
- focus
  - medium
  - period
  - CORRECT: normal**
19. a subjective quantity related to the frequency of sound; the higher the pitch, the higher the frequency
- CORRECT: pitch**
  - phase
  - period
  - focus
20. a glass fibre consisting of two layers, the outer layer has a lower refractive index than the inner layer; used to transmit light over long distances
- ionosphere
  - nodal lines
  - CORRECT: optical fibre**
  - phase