

- 22 The order of magnitude of the frequency of the longest-wavelength ultraviolet wave is expressed as 10^x Hz.

What is the value of x ?

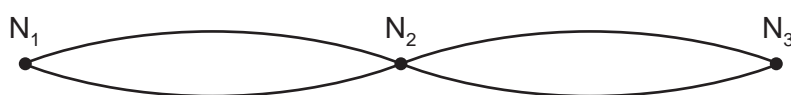
- A 13 B 15 C 17 D 19

- 23 The light from two lasers passes through a vacuum. One laser emits red light and the other emits green light.

Which property of the two laser beams must be different?

- A amplitude
B frequency
C plane of polarisation
D speed

- 24 The diagram shows a standing wave on a string. The standing wave has three nodes N_1 , N_2 and N_3 .



Which statement is correct?

- A All points on the string vibrate in phase.
B All points on the string vibrate with the same amplitude.
C Points equidistant from N_2 vibrate with the same frequency and in phase.
D Points equidistant from N_2 vibrate with the same frequency and the same amplitude.

- 25 A parallel beam of light of wavelength 450 nm falls normally on a diffraction grating which has 300 lines/mm.

What is the total number of transmitted maxima?

- A 7 B 8 C 14 D 15

Space for working