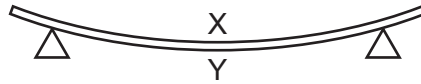


- 22** The diagram shows a beam supported on two pivots.



Which statement describes the state of the top surface X and of the bottom surface Y?

- A** Both X and Y are in compression.
 - B** Both X and Y are in tension.
 - C** X is in compression and Y is in tension.
 - D** X is in tension and Y is in compression.
- 23** A beam of red laser light has length 1.0 m.
- What is the order of magnitude of the number of wavelengths of the red light in 1.0 m?
- A** 10^4 **B** 10^6 **C** 10^8 **D** 10^{10}
- 24** When a car travelling with constant velocity passes a stationary observer, the observer hears a change in the frequency of the sound emitted by the car.
- Which statement is correct?
- A** The change in frequency is greater as the car moves away than as it approaches.
 - B** The greater the speed of the car, the greater the change in observed frequency.
 - C** The observed frequency is lower as the car moves towards the observer and higher as the car moves away from the observer.
 - D** The volume of the sound heard by the observer does not change as the car approaches.