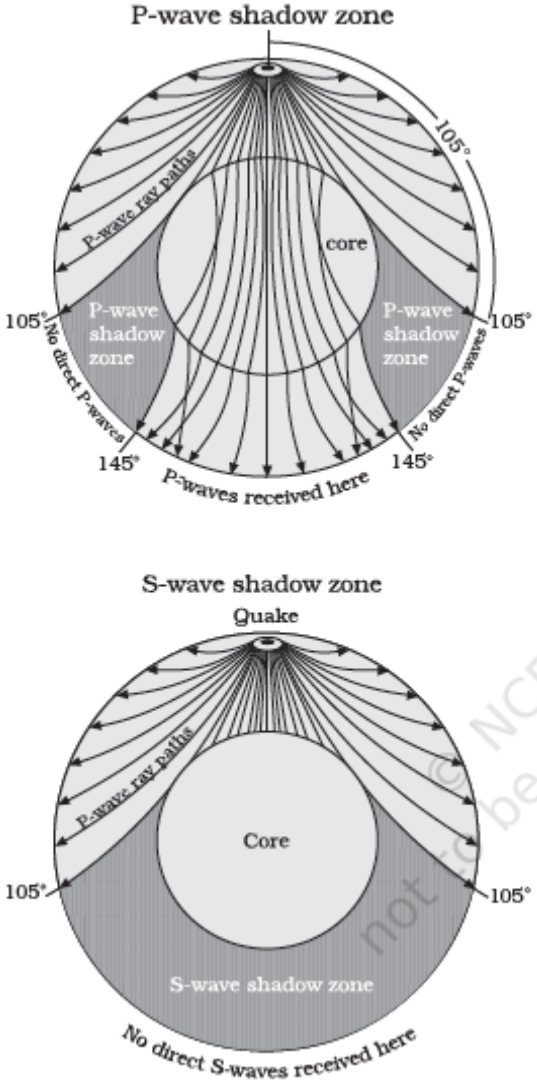

Figure 3.2 (a) and (b) : Earthquake Shadow Zones

29. Correct Answer : C

Answer Justification :

Earth's core is the very hot, very dense center of our planet. The ball-shaped core lies beneath the cool, brittle crust and the mostly-solid mantle. The core is found about 2,900 kilometers (1,802 miles) below Earth's surface, and has a radius of about 3,485 kilometers (2,165 miles).

Earth's core is the furnace of the geothermal gradient. The geothermal gradient measures the increase of heat and pressure in Earth's interior.The geothermal gradient is about 25° Celsius per kilometer of depth (1° Fahrenheit per 70 feet). The primary contributors to heat in the core are the decay of radioactive elements, leftover heat from planetary formation, and heat released as the liquid outer core solidifies near its boundary with the inner core.

Unlike the mineral-rich crust and mantle, the core is made almost entirely of metal—specifically, iron and nickel. The shorthand used for the core's iron-nickel alloys is simply the elements' chemical symbols—NiFe.

Outer Core

The outer core, about 2,200 kilometers (1,367 miles) thick, is mostly composed of liquid iron and nickel. The NiFe alloy of the outer core is very hot, between 4,500° and 5,500° Celsius (8,132° and 9,932° Fahrenheit).

Inner Core

The inner core is a hot, dense ball of (mostly) iron. It has a radius of about 1,220 kilometers (758 miles). Temperature in the inner core is about 5,200° Celsius (9,392° Fahrenheit). The pressure is nearly 3.6 million atmosphere (atm).

https://www.nationalgeographic.org/encyclopedia/core/