



A moving car on the roads of uphill parts has which kinds of energy?

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- A. Chemical energy
- B. Potential energy
- C. Thermal energy
- D. Electrical energy

Show Answer...

Correct Answer: B (Potential energy)

Explanation:

When a car moves uphill, it gains height, and therefore it gains potential energy. Potential energy is the energy that an object has due to its position or state. In this case, the car gains potential energy as it moves uphill against gravity.

Kinetic energy is the energy of motion, which means that an object has kinetic energy if it is moving. While the car is moving, it has kinetic energy, but that is not the kind of energy gained by the car when it moves uphill.

Thermal energy is the energy associated with the temperature of an object, and electrical energy is the energy associated with the movement of charged particles. Neither of these types of energy are relevant to a car moving uphill.

Therefore, the correct answer is B (Potential energy).

How is Potential Energy Calculated?

Potential energy is calculated based on the height of an object and its mass. The formula for calculating potential energy is:

$$\text{Potential Energy (PE)} = \text{mass (m)} \times \text{gravity (g)} \times \text{height (h)}$$

where:



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mass (m) is the mass of the object in kilograms

gravity (g) is the acceleration due to gravity (9.8 m/s^2)

height (h) is the height of the object in meters

For example, if a car of mass 1000 kg is parked on a hill that is 10 meters high, the potential energy of the car can be calculated as:

$$PE = 1000 \text{ kg} \times 9.8 \text{ m/s}^2 \times 10 \text{ m} = 98,000 \text{ Joules}$$

This means that the car has 98,000 Joules of potential energy due to its position on the hill.

In conclusion, when a car moves uphill, it gains potential energy due to its increased height. This potential energy can be calculated using the formula $PE = mgh$, where m is the mass of the object, g is the acceleration due to gravity, and h is the height of the object.