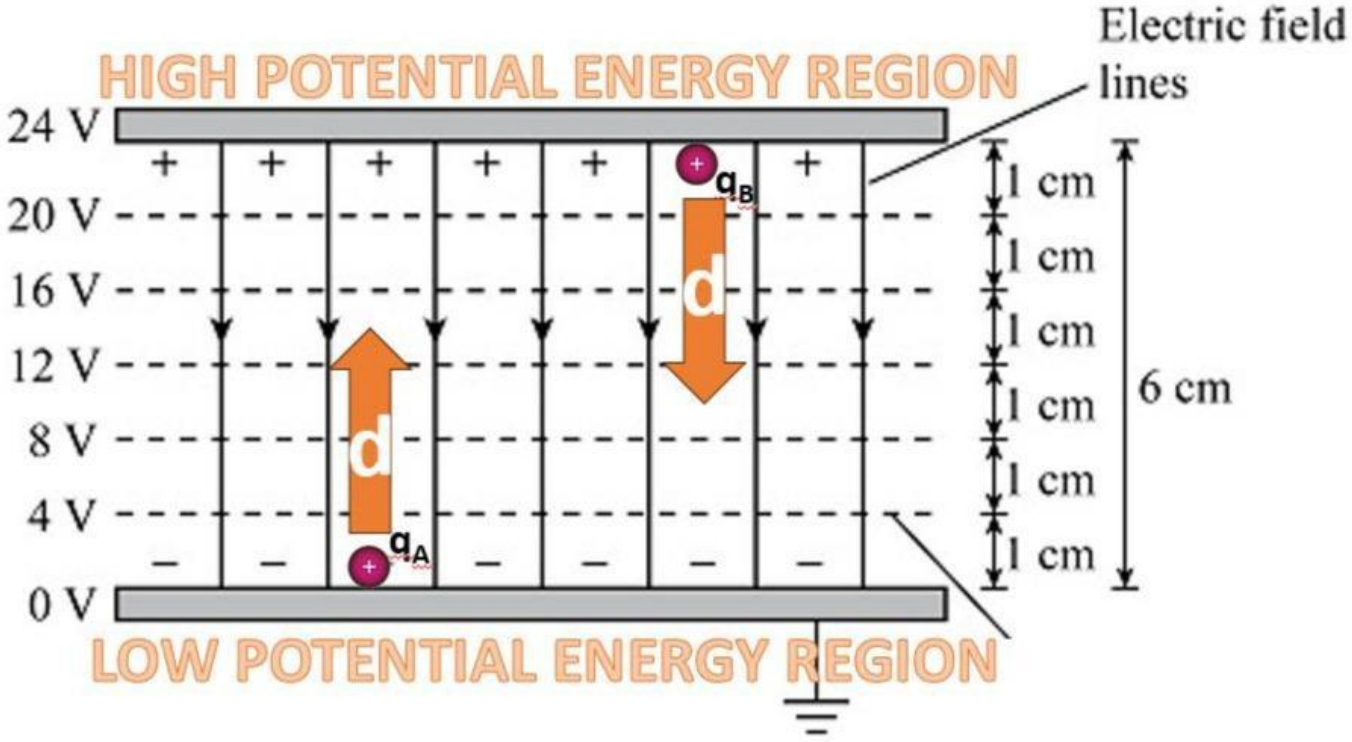
Member 1: Electric Potential Energy

Directions: Analyze the picture below to answer the following questions. For nos., 1-4, choose your answers from the words enclosed with parentheses.



The picture above shows two identical positive test charges, q_A and q_B, initially positioned at different plates. q_A is moved to the positive plate, and q_B is moved to the negative plate as shown by the displacement (d) arrows.

1. What happens to the electric potential energy of q_A as it goes to the positive plate?
   Ans. The electric potential energy _____ (increases or decreases).
2. What happens to the electric potential energy of q_B as it goes to the negative plate?
   Ans. The electric potential energy _____ (increases or decreases).
3. When does the charge gain potential energy with respect to the electric field?
   Ans. The charge gains electric potential energy if it moves _____ (along or against) the electric field.
4. When does the charge lose potential energy with respect to the electric field?
   Ans. The charge loses electric potential energy if it moves _____ (along or against) the electric field.
5. What is electric potential energy?
   Ans. The electric potential energy is the energy that a/an_____ (electric field or charge) has at any point in a/an _____ (electric field or charge).

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