Three charges Q, +q and +q are placed at the vertices of a right angle triangle (isosceles triangle) as shown. The net electrostatic energy of the configuration is zero, if Q is equal to

(A) $-q/1+\sqrt{2}$

(B) $-2q/2+\sqrt{2}$

(C) $-2q$

(D) $+q$

Net electrostatic energy of the configuration will be

$$U = K\left[\frac{q.q}{a} + \frac{Q.q}{\sqrt{2}a} + \frac{Q.q}{a}\right]$$

$$\text{Here, } K = \frac{1}{4\pi\varepsilon_0}$$

Putting $U = 0$ we get, Q

$$= \frac{-2q}{2+\sqrt{2}}$$