



KEC

K Education Centre



AS Particle Physics

Specific Charge

Assignment Questions

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Specific Charge :

Charge of electron : $- 1.60 \times 10^{-19} \text{ C}$

Mass of electron : $9.11 \times 10^{-31} \text{ kg}$

Charge of proton : $+ 1.60 \times 10^{-19} \text{ C}$

Mass of proton : $1.67 \times 10^{-27} \text{ kg}$

$h = 6.63 \times 10^{-34} \text{ J s}$

Q1: What is the specific charge of an $^{16}\text{O}_8$ nucleus ?

Q 2: What is the specific charge of an ion of $^{40}\text{Ca}_{20}$ when it loses its two electrons ?

Q3 : What will be the specific charge of an ion of $^{16}\text{O}_8$ when it gains two electrons ?

Q4 : Calculate the specific charge of Potassium $^{39}\text{K}_{19}$ nucleus.

Q5 : The equation $^{229}\text{Th}_{90} \longrightarrow ^{225}\text{Ra}_{88} + ^4\alpha_2$

Calculate the specific charge of $^{229}\text{Th}_{90}$ nucleus.

Calculate the specific charge of $^{225}\text{Ra}_{88}$ nucleus formed.