

Easy

Assistant Engineer (Electrical), Class 2025

Building Department

## How many electrons will constitute 2 Coulombs of electric charge?

A

6.24  $\times 10^6$  electrons

B

12.48  $\times 10^6$  electrons

Correct

C

1.602  $\times 10^6$  electrons

D

3.204  $\times 10^6$  electrons

### Correct Answer: B

#### Full Detailed Explanation

**Concept & Reasoning** Each electron carries charge magnitude  $e = 1.602 \times 10^{-19}$  C. The number of electrons corresponding to a charge magnitude  $Q$  is obtained by dividing  $Q$  by  $e$ . The sign of electron charge is negative, but when a question asks 'how many electrons', the count is a positive number. Substituting  $Q = 2$  C gives approximately  $1.248 \times 10^6$  electrons, which matches  $12.48 \times 10^5$ .

**How to Solve It in the Exam** 1 C corresponds to about  $6.24 \times 10^6$  electrons; multiply by 2.

**Important Exam Point** Keep scientific notation consistent before matching the option.

**Related Revision Path** This question sits in the revision path Basic Electrical Engineering > Electric Charge > Charge Quantization .

Open live question on website:

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