

Worksheet: Electrostatic Potential and Capacitance

West Bengal State Board · Class 12 · Physics · 5 questions · 14 marks

Name: _____

Date: _____

Score: _____ / 14

Q1. Charges $2\ \mu\text{C}$ and $-2\ \mu\text{C}$ are $0.1\ \text{m}$ apart. Find the potential at the midpoint. *[2 marks]*

Q2. A parallel plate capacitor has area $0.1\ \text{m}^2$ and separation $1\ \text{mm}$. Find its capacitance. *[2 marks]*

Q3. Find the equivalent capacitance of $4, 6, 12\ \mu\text{F}$ in parallel and the charge stored at $10\ \text{V}$. *[3 marks]*

Q4. A dielectric $K = 3$ is inserted in a $5\ \mu\text{F}$ capacitor charged to $20\ \text{V}$ with the battery disconnected. Find new C , V , and energy. *[3 marks]*

Q5. A $10\ \mu\text{F}$ capacitor charged to $100\ \text{V}$ is connected to an uncharged $10\ \mu\text{F}$ capacitor. Find the energy loss. *[4 marks]*
