

## Worksheet: Electrostatic Potential and Capacitance

ISC · 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 m apart. Find the potential at the midpoint. *[2 marks]*

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

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

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

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

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