

## Capacitors Quiz PDF

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**What is the basic unit of capacitANCE?**

- Ohm
- Volt
- Farad
- AmpERE

**Which material is commonly used as a dielectric in capacitors?**

- Copper
- Iron
- Ceramic
- Silicon

**Which type of capacitor is known for having adjustable capacitANCE?**

- Ceramic capacitor
- Electrolytic capacitor
- Film capacitor
- Variable capacitor

**What is the primary function of a capacitor in an electrical circuit?**

- Convert AC to DC
- Store electrical energy
- Increase current
- Decrease voltage

**How does connecting capacitors in parallel affect the total capacitANCE and voltage rating of the circuit?**

**Describe the role of capacitors in power supply smoothing and why it is important.**

**Explain the concept of the time constant in RC circuits and its practical implications in electronic design.**

**Which factors affect the capacitANCE of a capacitor? (Select all that apply)**

- Distance between plates
- Dielectric material
- Plate area
- Wire length

**What is the effect of connecting capacitors in series on the total capacitANCE?**

- Increases
- Decreases
- Remains the same

Doubles

**What is the significance of the dielectric material in a capacitor, and how does it affect capacitANCE?**

**What are some applications of capacitors in electronic circuits? (Select all that apply)**

- Signal filtering
- Power supply smoothing
- Increasing resistance
- Energy storage

**Which of the following are common types of fixed capacitors? (Select all that apply)**

- Ceramic
- Electrolytic
- Trimmer
- Film

**Which capacitor type must be connected with the correct polarity?**

- Ceramic
- Electrolytic
- Film
- Mica

**What happens to a capacitor when it is fully charged?**

- It stops conducting current
- It explodes
- It increases voltage
- It decreases resistance

**Which configurations can capacitors be arranged in a circuit? (Select all that apply)**

- Series
- Parallel
- Diagonal
- Grid

**Explain how a capacitor charges and discharges in a simple RC circuit.**

**What are the characteristics of a polarized capacitor? (Select all that apply)**

- Can be connected in any direction
- Has a positive and negative lead
- Typically an electrolytic capacitor
- Used in AC circuits

**Discuss the differences between fixed and variable capacitors and their respective applications.**

**What are the effects of equivalent series resistance (ESR) in capacitors? (Select all that apply)**

- Increases efficiency
- Causes heat dissipation
- Reduces efficiency
- Affects performance at high frequencies

**What is the time constant of a capacitor defined as?**

- The time to fully charge
- The time to discharge completely
- The time to charge to 63.2% of its maximum voltage
- The time to reach 50% of its maximum voltage