Lab 114 - 04: Quiz - ROTATIONAL DYNAMICS

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Question 1: The plates of an **isolated** parallel plate capacitor with a capacitance C carry a charge Q. What is the capacitance of the capacitor if the **charge is increased to 2Q**?
(a) C/2 (b) 2C (c) C (d) none of these

Question 2: When the capacitor is **fully charged** in **DC** the current in the circuit is
(a) maximum (b) minimum (c) somewhere in between maximum and minimum (d) zero

Question 3: Two **capacitors in series** that have the same charge density and same plate separation will always have the same
(a) capacitance (b) voltage (c) charge (d) all of these on the list

Question 4: In an AC (sine-wave) domain, the time-series of the voltages **between the capacitor and the resistor** will ALWAYS be
(a) exactly in phase (b) exactly 180° out of phase (c) exactly 90° out of phase (d) none of these

Question 5: In an AC (sine-wave) domain, the time-series of the voltages **between the capacitor and the entire circuit** will ALWAYS be
(a) exactly in phase (b) exactly 180° out of phase (c) exactly 90° out of phase (d) none of these

Question 6: The **capacitance will increase** if one
(a) increases the voltage (b) decreases the charge (c) increase the plate separation (d) none of these

Question 7: Consider a capacitor and resistor in series in AC (sine-wave) domain. Does the time-series of the **voltage** across the **capacitor** ever become zero?
(a) no (b) yes

Question 8: One of the **major differences between DC and AC** (sine-wave) that when the circuit includes a **capacitor** is that
(a) the capacitance depends on frequency (b) capacitor has resistance, but independent of frequency (c) capacitor has resistance, but dependent on frequency (d) none of this

Question 9: As AC (sine-wave) **frequency increases** in an RC in series, then the rms voltage **across the resistor**
(a) approaches zero (b) approaches the RMS of the source (c) none of thee on the list

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