CAPACITORS

5.1. Vocabulary

Ex. 1. *Match the words with their definitions.*

1. region	a. a word or phrase used to describe a specific concept or idea.
2. inductive	b. relating to a process where a current is generated in one circuit by changing the magnetic field in another.
3. dielectric	c. a quantity that has both direction and magnitude, commonly used in physics.
4. coulomb	d. a unit that measures the amount of electric charge.
5. magnetized	e. moving or vibrating in a rhythmic way, often like a heartbeat.
6. sum	f. the physical substances used to create objects or structures.
7. material	g. an area defined by certain characteristics or boundaries.
8. farad	h. to make a solution stronger by removing some of the liquid.
9. object	i. a tangible item that can be seen and touched.
10. term	j. a unit of measurement for how much electric charge a capacitor can hold.
11. electrolytic	k. related to the body or the natural world, rather than mental or spiritual aspects.
12. equivalent	l. relating to a substance that conducts electricity when dissolved in water or melted.
13. combination	m. having been made into a magnet or possessing magnetic properties.
14. vector	n. the act of joining two or more things together to form a single entity.
15. concentrate	o. a material that does not conduct

	electricity and can store electrical energy.
16. pulsating	p. something that has the same value, function, or meaning as another thing.
17. physical	q. the total amount resulting from adding two or more numbers together.

Ex. 2. *Complete the sentences with the given words.*

physical, pulsating, vector, Farads, material, object, electrolytic, dielectric, region, term, magnetized, inductive, equivalent, sum, concentrate, combination, coulombs

In an _____(1) capacitor, the electrolyte serves as a conductor for electricity.

A _____(2) material is essential in capacitors to store electrical energy efficiently.

The _____(3) capacitance can be calculated when capacitors are connected in parallel.

To make a stronger capacitor, we need a higher _____(4) of the electrolyte solution.

The choice of _____(5) affects how well the capacitor performs and stores energy.

A capacitor can hold charge measured in _____(6), which indicates its capacity.

When we charge a capacitor, it stores energy in _____(7) until needed in a circuit.

In electronics, a capacitor is a _____(8) used for a device that stores electrical energy.

The _____(9) around a charged capacitor has an electric field that can affect nearby components.

The _____(10) of different types of capacitors can enhance the overall circuit performance.

The _____(11) inside the capacitor plays a key role in determining its charging speed.

A _____(12) change occurs in the capacitor when it is charged and discharged repeatedly.

The _____(13) current in some circuits requires specific types of capacitors for stability.

Each capacitor has a _____(14) representation in schematics to show its electrical properties.

The _____(15) of all voltages across capacitors in series must equal the total applied voltage.

An _____(16) capacitor type is often used in applications involving alternating current circuits.

When exposed to a magnetic field, some capacitors can become _____(17) temporarily.

5.2. Word Formation

Ex. 1. *Change the form of the words to complete the sentences.*

1. … (like) traditional light bulbs, LED lights use much less energy to operate effectively.

2. The electricity supply was … (restrict) during the storm to prevent any accidents.

3. … (insulate) in your home helps to keep the heat in during the winter months.

4. When you … (charge) a battery too quickly, it can lose its ability to hold a charge.

5. The … (capacity) of a capacitor determines how much charge it can store safely.

5.3. Reading

Ex. 1. *Read the text.*

A capacitor is a device that stores electrical energy. It is like a small battery, but it can charge and discharge very quickly. Capacitors are made of two metal plates with a special material between them. When you

connect a capacitor to a battery, it stores energy. When you remove the battery, the capacitor can release that energy.

Capacitors are important in many electronics. They can help smooth out electrical signals, filter noise, and store energy for later use. For example, in a camera, a capacitor helps make sure the flash gets enough power to work quickly.

There are different types of capacitors. Some are small, like a grain of rice, and some are big, like a soda can. Each type is used for different jobs, depending on how much energy it needs to store and how fast it needs to release it.

In summary, a capacitor is a key part of many electronic devices. It stores and releases energy quickly, helping devices work better and more efficiently.

Ex. 2. *Answer the questions.*

1. What is a capacitor and how does it function?

2. How are capacitors similar to batteries, and how do they differ?

3. What are the main functions of capacitors in electronics?

4. Can you provide an example of how a capacitor is used in a specific electronic device?

5. What are the different types of capacitors mentioned in the text?

6. How does the size of a capacitor affect its usage?

7. Why are capacitors considered a key component in electronic devices?