**A resistor that is made by wrapping a wire around a ceramic rod:**

a) Carbon Film

b) Carbon Composition

c) Thermistor

d) Wirewound

**One of the preferred values for a 5% resistor:**

a) 4000 Ω

b) 560 Ω

c) 77 Ω

d) 395 Ω

**The amount of wattage a resistor can handle is determined by:**

a) Value

b) Voltage

c) Current

d) Size

**What does the “PASSIVE” device mean?**

a) It can be just resistor, capacitor or inductor, no other devices.

b) Device, where output power (*P*out) is lower (or equal) than the input power (*P*in).

c) Device, where input power (*P*in) is lower (or equal) than the output power (*P*out).

d) All the semiconductor devices, e.g. LED, thyristors etc.

**What does the “LINEAR” device mean?**

a) Device that can be described by means of simple linear formulas and their combinations.

b) Device that can generate harmonic signals and their combinations (intermodulation).

c) Device, which behavior is determined by differential equations with both time and coordinate variables.

d) Device that exhibits linear dependence between temperature and its resistivity.

**Which elements (and their combinations) are not often used for common resistors:**

a) Gold (Au),

b) Carbon (C),

c) Oxides of Sn,

d) Oxides of Cr + Ni.

**In which units is given the temperature coefficient of resistivity (TCR)?**

a) -1

b) K-1

c) K/W

d) J/kg

**When two conductive plates are moved closer together Capacitance will:**

a) Increase

b) Decrease

c) Stay the Same

d) Oscillate

**A dielectric that stores energy with no loss:**

a) Does not exist

b) Air

c) Pure Glass

d) A perfect vacuum

**How can we define the dissipation factor (*D*)?**

a) It is an angle between current *I* flowing through the capacitor and applied voltage *V*.

b) It is an angle between voltage *V* on the capacitor and voltage on the parasitic inductance *L* of the outlets.

c) It is a parameter responsible for total power losses in the capacitor.

d) It is a self-resonance frequency.

**Which important materials are used for electrolyte capacitors?**

a) Aluminum (Al) or Tantalum (Ta), solution of KOH or H2SO4.

b) Stainless steel (Fe), other ferromagnetic metals (Ni, Cr, Etc.).

c) Carbon (C).

d) Silicon-carbide (SiC).

**Electrolyte capacitors are typically used:**

a) For high voltage and high frequency applications (low power losses needed).

b) As charge accumulators thanks to big specific capacity.

c) As variable capacitors for tuned RF applications.

d) For filtering in AC/DC converters, in power sources.

**Variable capacitors are typically made and designed as:**

a) Rotating parts with an air (dielectric) gap.

b) Foil capacitors based on plastic dielectric (PE, PA, PVC, etc.).

c) Rolled capacitors with metallization on both electrodes.

d) Ceramic capacitors made from ferroelectric (FexOy) or similar dielectric with large permittivity.

**Inductors and coils can be made:**

a) As a simple air-winding - without any magnetic circuit.

b) Only From ferromagnetic cores (Fe, Ni, Cr).

c) Only from dia/paramagnetic cores (Al, Mn, Cu).

d) From a ferromagnetic winding wounded on some Cu core.

**Quality factor (*Q*) of inductor can be defined as:**

a) An product of absolute and relative permeability of used ferrite material.

b) An angle between flowing current in inductor and voltage on the inductor’s outlets.

c) Ratio between imaginary and real part of the inductor’s impedance.

d) Maximum magnetic flux in the middle of the magnetic core.

**Connect name and correct position of the capacitor:**

a) Ceramic capacitor 1.

b) Foil capacitor with axial leads 2.

c) Tantalum capacitor 3.

d) Foil capacitor with radial leads 4.