

Rif. 6674 Quesiti prova orale

1.
 - La/il candidata/o descriva la curva caratteristica corrente-tensione di un componente di un circuito elettronico.
 - La/il candidata/o illustri l'utilizzo di un transistor in un circuito elettronico.
 - La/il candidata/o descriva lo sviluppo di un software per l'acquisizione dati.
 - Gli organi di Ateneo.
 - I sistemi di accreditamento digitale sui siti delle PA.

BRANO IN INGLESE DA LEGGERE E TRADURRE A capacitor (an older, equivalent term is condensor) is, at minimum, a pair of conductors separated by vacuum or dielectric. The symbol itself depicts two parallel electrodes. Generally, useful capacitors have a relatively large area to achieve a reasonably useful capacitance, so they are something like a pair of planar conductors, with little separation. They may have stacks of many planar conductors to increase the area even further, and the stacks may be rolled up to save space and stored in a can or dipped in epoxy for robustness.

2. La/il candidata/o descriva le diverse modalità di alimentazione in un circuito.
 - La/il candidata/o descriva un circuito elettronico oscillante.
 - La/il candidata/o illustri l'uso di un oscilloscopio.
 - Gli organi del dipartimento.
 - I sistemi di trasmissione certificata di comunicazioni digitali.

BRANO IN INGLESE DA LEGGERE E TRADURRE A bipolar junction transistor (BJT) is our first example of a device that is both noniinear and active active, in the sense that the device should be "powered," orto say it another way, it uses one signai to modify another signal. At first, it's a bit counterintuitive to bave a device with three terminais, but roughly speaking, you can think of it functionally as having a pair of input terminals and a pair of output terrhinals, but one terminai is 'shared" between the input and the output. BJTs come in two fiavors: NPN arid PNP, which refers to the stack of doped semiconductors that form the transistor.

3.
 - La/il candidata/o descriva il funzionamento di un trasformatore.
 - La/il candidata/o descriva la funzione di un condensatore in un circuito.
 - La/il candidata/o descriva T'utilizzo di una scheda di acquisizione dati.
 - Il Consiglio di Amministrazione dell'Ateneo.
 - La firma digitale.

BRANO IN INGLESE DA LEGGERE E TRADURRE We have already talked a bit about differenUal amplifiers, when we analyzed the transistor differential amplifier. The differential amplifier is an important building block in its own right, and we will spend a fair amount of time looking at them. In particular, the operational amplifier (op-amp) is a handy, handy device in analog-circuit design. Recall that the differential amplifier ideally subtracts the input voltages, and multiplies the difference by a gain factor (here, A) to produce an output signal. The operational amplifler is basically a differential amplifier, but with large gain (with larger=better, where op-amps are concerned).

4.
 - La/il candidata/o illustri un componente di un circuito elettronico con caratteristica corrente-tensione non lineare.
 - La/il candidata/o descriva la funzione di un'induttanza in un circuito,
 - La/il candidata/o illustri l'utilizzo di convertitori analogico-digitale e/o digitale-analogico.
 - Il Senato Accademico.
 - Il domicilio informatico.

BRANO IN INGLESE DA LEGGERE E TRADURRE Before understanding how DAC circuitry works, let's review some of the resolution requirements for representing analog signals. Analog signals must be sampled, that is instead of a continuous function $y(t)$, we must represent it via samples y_j $y(t_j)$ at sample times t_j (typically regularly spaced), and the values of y_j must be represented with some finite precision (i.e., it must be represented with a finite number of bits). In terms of amplitude

resolution, if there are N bits of data, then there are 2^N different signal levels available within a defined range (e.g., within some voltage range). The signal levels could be positive only, represented by unsigned integers, or positive/negative using signed integers (or unsigned integers after adding an offset that ensures the signal is always positive).