

Part # (A)

Q No # 01

Two Formula finding Total resistance in parallel.

$$(1) \quad \frac{1}{R_{tot}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \dots \text{etc}$$

This formula does not give you the total resistance

$$R_{tot} \quad \text{or} \quad \frac{1}{R_{total}}$$

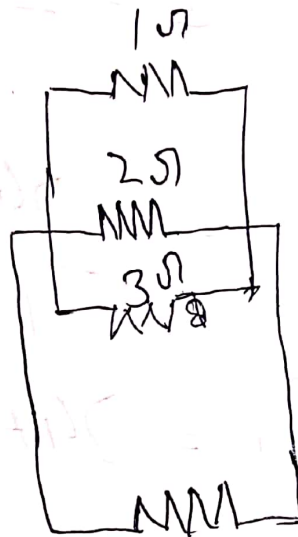
$$(2) \quad R_{tot} = \frac{R_1 \times R_2}{(R_1 + R_2)}$$

⇒ This formula is often referred
to a "product over sum"

Q No # 01

Part # (B) In the addition
of parallel resistor
& ~~and~~ parallel circuit
resistance decreases
& Conductance Increase
with the addition of
more resistor.

Q (No #02)



$24V$

Given:

$$V = 24V$$

$$R_1 = 1\Omega$$

$$R_2 = 2\Omega$$

$$R_3 = 3\Omega$$

Required:

$$I = ? , P = ?$$

SOLUTION \Rightarrow

$$V = 24V$$

$$I = \frac{V}{R}$$

$$= \frac{24}{1}$$

$$I_1 = 24A$$

$$I_2 = \frac{V}{R_2} = \frac{24}{2} = 12A.$$

$$I_3 = \frac{V}{R_3} = \frac{24}{3} = 8A.$$

Power adopted by each resistor.

$$P = VI$$

$$P_1 = V_1 I_1$$

$$P_1 = 24 \times 24 = \del{576 \text{ W}} 576 \text{ W}$$

$$P_2 = V_2 I_2$$

$$P_2 = 24 \times 12 = 288 \text{ W}$$

$$P_3 = V_3 I_3$$

$$P_3 = 24 \times 8 = 192 \text{ W}$$

Q No # (03)

1) CURRENT & VOLTAGE

Current is the rate at which electric charge flows past a point in a circuit. In other words, current is the rate of flow of electric charge. Voltage is also called electromotive force, is the potential difference ~~between~~ is charge b/w two points, is an electric field. Voltage is the cause & current is its effect.

2) Resistance & Conductance

Conductance is a proportion to how much flow occur for a ~~log~~ given pressure & resistance is proportion to how much pressure.

is required to achieve is given flow (conductance & resistance are @ reciprocal)

3) Power & Energy \Rightarrow E. is the
Capacity to do work
Energy is power Integrated
over time power is the
rate at which work is
done or energy is transmitted
Unit \Rightarrow Joules = watt-seconds
or Joule = Newton-Meter.

4) Inductance & Capacitance →

A Capacitor stores energy in an electric field and another way of saying this is that capacitors resist changes in voltage & inductors resist changes in ~~current~~ current.

Q) Synchronous motor is a machine whose rotor speed is the same as the speed of the stator magnetic field is equal

Asynchronous motor is a machine whose rotor rotates at the speed less than the synchronous speed. AC

Induction motor is known as the asynchronous motor. Synchronous motor does not have slip.