

Submitted To ⇒ Engr Ashraf Ali.

Submitted By ⇒ Abdullah Aziz.

I-D ⇒ 7671

Section ⇒ Senior.

Paper ⇒ Basic Electro Mechanics.

Section ⇒ Senior.

Date ⇒

IQRA NATIONAL

UNIVERSITY.

Q NO # 01.

Part (a):-

Ans :- " For Two numbers :-

$$\Rightarrow \frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2}$$

For Any numbers:-

$$\Rightarrow \frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \dots \dots \frac{1}{R_n}$$

Part (B):-

Ans:- with parallel resistors the number of total resistance decreases since the total resistance is in reciprocal form so it divides into intervals as shown below.

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2}$$

While the total conductance will increase because total conductance

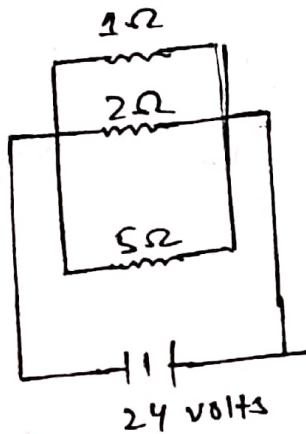
P.T.O

is the reciprocal of total resistance
 so there is smooth or more flow
 of electrons.

$$G \propto \frac{1}{R}$$

QNO# 02:-

Ans:-



Since R_1 is in parallel so

$$= \frac{1}{R_1}$$

$$\text{thus } I_1 = \frac{V_1}{R_1}$$

$$I_1 = \frac{24}{1} = 24 \text{ amp.}$$

⇒ As R_2 is in series so $R = R$.

P.T.O

$$\text{thus } I_2 = \frac{V_2}{R_2}$$

$$I_2 = \frac{24}{2} = 12 \text{ amp.}$$

⇒ As R_3 is in parallel series so

$$I_3 = \frac{V_3}{R_3} = \frac{24}{3} = 8 \text{ amp.}$$

⇒ power dissipated by each resistor.

$$P = VI$$

$$P_1 = VI I_1$$

$$P_1 = 24 \times 24 = 576 \text{ w.}$$

$$P_2 = VI I_2$$

$$P_2 = 24 \times 12 = 288 \text{ w.}$$

$$P_3 = VI I_3$$

$$P_3 = 24 \times 8 = 192 \text{ w.}$$

Ans

Q No # 03:-

Differentiate b/w the following:-

a) Current & voltage:-

Ans:- Voltage is the difference in charge b/w two points. Current is the rate at which charge is flowing. Resistance is a material's tendency to resist the flow of charge current.

b) Resistance & Conductance:-

Resistance:-

Resistance is a property of a conductor which tells us how much the resistor resists or opposes the current to pass through it whereas is called resistance.

Conductance:-

Conductance is a property of a conductor which tells us how much the resistor allows the current to pass through it is called conductance.

P.T.O

(c) power & energy :-

Energy :-

Energy is the total amount of work done. Energy is what makes change happen & can be transferred from one object to another. Energy can also be transformed from one form to another is called energy. Energy is watt-hour.

Power :-

power is energy per unit of Time. power is watts.

(d) Inductance & Capacitance :-

Inductance :-

inductance is a property of a current carrying conductor which generates a magnetic field around the conductor whereas is called Inductance.

Capacitance :-

Capacitance is a property of a device to hold & store electric charges is called capacitance.

P.T.O

(e):- Synchronous motor & Asynchronous motors:-

Synchronous motor:-

Synchronous motor is a machine whose rotor speed is equal to the speed of the stator magnetic field is called Synchronous motor.

A synchronous motor:-

A synchronous motor is a machine whose rotor rotates at the speed less than the synchronous speed... synchronous motor does not have slip. the value of slip is zero it is called A synchronous motor.

the End of paper:-