

Viimase arvestuse ülesanne

- Jaguneda gruppideks (1-3 õpilast), ning koostada ühisloomet (nt Draw.io vms,)
- Esitada oma tööd klassis, vastata lisaküsimustele
- Töö üleslaadida moodle keskkonda (töös panna teostajate nimed)

Eesmärk:

1. Näidata mida on õpitud semestri jooksul ja luua seoseid erinevate valdkondade vahel.

Hindamine:

1. Tööde hindamine toimub vastastikhindamisena. (õpilased hindavad üksteise tööd)
2. Hindamine toimub vahemikus 0 kuni 100% (hindab iga õpilane ja arvutatakse keskmine protsent)
3. Mida hinnatakse
 - a. Õpilane teab ja oskab rakendada omandatud teoreetilisi teadmisi, oskab **luua seoseid** hooneautomaatika ning temaga piirnevate valdkondade vahel, rakendada saadud praktilises töös. Ta on võimeline iseseisvalt ja edukalt lahendama valdkonda kuuluvaid **praktilisi ja teoreetilisi probleeme**
 - b. Esitlust (suulist ja visuaalset osa)
 - c. Oskus vastata lisaküsimustele

Ülesanne:

1. Koostage kursuse jooksul omandatud teadmiste põhjal ühine plakat ettekanne (A2), kus selgitate mida õppisite ja kuidas seoste teemad varem õpituga ja loote seoseid erinevate valdkondade vahel.

Näited:

ELECTRICIAN KNOWLEDGE

10 Gauge
200 Amps
Service entrance

10 Gauge
150 Amps
Service entrance and feeder wire

3 Gauge
100 Amps
Service entrance and feeder wire

6 Gauge
55 Amps
Feeder and large appliance wire

8 Gauge
40 Amps
Feeder and large appliance wire

10 Gauge
30 Amps
Dryer, appliances, and air conditioning

12 Gauge
20 Amps
Appliances, laundry and bathroom circuits

14 Gauge
15 Amps
General lighting and receptacle circuits

WIRE COLOR CODE

RED
Indicates the secondary neutral wire in a 250-volt circuit, which is three times the voltage applied to the interconnection between voltage detectors that are hard-wired into the power system.

GREEN
Indicates the grounding or grounded circuit.

YELLOW AND BLUE
Are also used to carry ground but are not for wiring the ducts for overhead piping or structural members.

WHITE AND GRAY
Indicates a neutral wire.

BLACK
Is used for ground in all circuits.

CIRCUIT SYMBOLS
A detailed grid of symbols for various electrical components like switches, outlets, and lighting fixtures.

Resistor Color Code

Band 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

Ohm's Law

Power (P) $P = I^2 R$ $P = \frac{V^2}{R}$

Voltage (V) $V = I R$ $V = \frac{P}{I}$ $V = \sqrt{P R}$

Current (I) $I = \frac{V}{R}$ $I = \frac{P}{V}$ $I = \sqrt{\frac{P}{R}}$

Resistance (R) $R = \frac{V}{I}$ $R = \frac{V^2}{P}$ $R = \frac{P}{I^2}$

Resistor Network
Series: $R_T = R_1 + R_2 + R_3$
Parallel: $\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$

Capacitor Network
Series: $\frac{1}{C_T} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$
Parallel: $C_T = C_1 + C_2 + C_3$

Unit Prefixes

Alternating Current

Peak-to-Peak Voltage (E_{pp})
Average AC Voltage (E_{avg})
RMS AC Voltage (E_{rms})
Peak AC Voltage (E_p)
Average AC Current (I_{avg})
RMS AC Current (I_{rms})
Peak AC Current (I_p)

AC Volts Test

DC Amps Test

Basic Units

Kirchhoff's Laws

Resistor Rule
Sum of the resistances in series is equal to the total resistance.

Capacitor Rule
Sum of the reciprocals of the capacities in parallel is equal to the reciprocal of the total capacity.

ELECTRICAL SCHEMATIC SYMBOLS

The poster is organized into several sections:

- RESISTORS:** Symbols for fixed resistors, variable resistors, thermistors, and photoresistors.
- CAPACITORS:** Symbols for fixed capacitors, variable capacitors, electrolytic capacitors, and polarized capacitors.
- INDUCTORS:** Symbols for fixed inductors, variable inductors, and solenoids.
- SWITCHES:** Symbols for various types of switches, including single-pole, double-pole, and interlocking switches.
- RELAYS:** Symbols for electromagnetic relays and solid-state relays.
- DIODES:** Symbols for diodes, Zener diodes, and light-emitting diodes (LEDs).
- TRANSFORMERS:** Symbols for power transformers, autotransformers, and isolation transformers.
- SEMICONDUCTORS:** Symbols for diodes, transistors, and integrated circuits.
- RELAYS:** Symbols for various types of relays.
- INTERCONNECTED CIRCUITS:** Symbols for integrated circuits and microprocessors.
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