## UNIT 1: PROJECT PLANNING

1. Summarize the elements that affect Technology and briefly explain them.
2. Explain the steps that you should take into account in the technological process
3. Explain what a marketing plan is and its impact in society.
4. Explain which the three main functions in a company are.

UNIT 2: ELECTRIC CIRCUITS AND ELECTRONICS

1. Define and give examples (if possible) for the following concepts:
   a. Generator
   b. Load
   c. Switching device
   d. Voltage
   e. Intensity
   f. Resistance
   g. Relay
   h. Potentiometer
   i. LDR
   j. Capacitor
   k. LED
2. Explain the types of circuit you know, and the differences between them.
3. Explain the types of current you know, and the differences between them.
4. Name and give examples for the effects of electric current.
5. Explain how a dynamo and an electric motor work.
6. Do the following activities from your textbook: 2, 4, 5, 6, 8, 9, 10, 26, 42.
7. Fill the gaps in the chart above.

Intensity (A)	Voltage (V)	Resistance (Ω)
15 A	20 V	
5 A		20 Ω
	3 V	10 Ω
	4,5 V	3 Ω
12 A	6 V	

8. Calculate the total resistance in the next circuit.
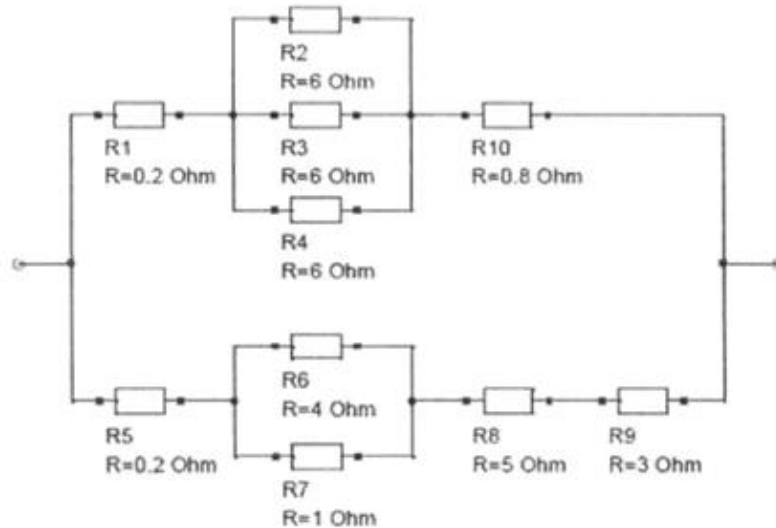
UNIT 3: PROGRAMMING AND ROBOTICS

1. Define and give examples (if possible) for the following concepts:
   a. Sensor
   b. Controller
   c. Actuator
2. Explain the differences between and open loop control system and a closed loop control system.
3. Explain what the difference between the input and output is.
4. Explain what the differences between the digital and analogue variables are.
5. Explain how a DC motor, stepper motor and a servomotor work and which their differences are.
6. Explain how an ultrasound and an optical position sensor work.
7. Explain what will happen with the LED installed in the pin13.


```
void setup (){
  pinMode(13,OUTPUT);
}


void loop () {
  digitalWrite(13,HIGH)
  delay(1000);  // Espe:
  digitalWrite(13, LOW)
  delay(1000); // Esper:
}
```