Viva Questions (IOT-LAB)

1. To begin, the first step is to thoroughly study all the 14 programs mentioned in the file. Following this, understand the boards, components, sensors, and actuators utilized in those practical's.
2. What is Sensors , Actuators . What are the different sensors that you used in your file
   We have used – Photoresistor
   Temperature sensor
   Gas Sensor
   PIR (passive infrared sensor)
   Ultrasonic sensor
   What are some practical applications of these sensors?

Study the working principles of those components, sensors, and actuators. You should be able to identify the sensors by looking into your file.

3. Complete working knowledge of simulator (Tinkercad) That we have used for circuit design

4. Complete knowledge of components of arduino UNO-R3 board

- Its PIN diagram (how many digital pins arduino board have, how many analog pins arduino have , which type of power PINS arduino have)
- Function of PWM pins of arduino
- What is used with arduino Microcontroller or Microprocessor(its name)
- Other different types of arduino board (arduino mega , lilypad etc) Their basic description where they used

5. Difference between Raspberry Pi and Arduino (Also important for theory exam)

6. What is Arduino IDE – Why these functions used:

-analogWrite() , analogRead()

- digitalWrite(), digitalRead()

- PinMode(), delay()

7. About Library manager in arduino IDE.

8. What are some common electronic components used in IoT devices?

9. What are the limitations of Tinkercad compared to real-world circuitry?

10. Why would you need to add libraries in Arduino?

11. How do you ensure that the Arduino IDE is correctly set up for programming?

12. What safety considerations should be kept in mind when designing a circuit's smoke detector, home automation?

13. Describe the role of each sensor and actuator listed in the Home Automation (Practical-14)