

	Parul University Faculty of Engineering and Technology Parul Institute of Engineering and Technology Electronics and Communication Engineering Department
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Subject Name	ICT WORKSHOP	A.Y	2025-2026
Subject Code	(03010702ES01)	Semester	2nd

Assignment-1

Sr No	Question	COs	B.T	Competence
1	Explain the working principle of a breadboard.	CO1	1	Remember
2	Explain the construction and working of PN junction diode.	CO1	2	Understand
3	Explain Zener diode and its voltage regulation principle.	CO1	2	Understand
4	Differentiate between diode and Zener diode.	CO1	2	Understand
5	Explain LED and its applications.	CO1	2	Understand
6	Explain the working principle of a transistor.	CO1	2	Understand
7	Explain transistor operation as a switch.	CO1	3	Apply
8	List applications of basic electronic components.	CO1	1	Remember
9	Explain the working principle of a digital multimeter.	CO2	2	Understand
10	Explain voltage measurement using a digital multimeter.	CO2	3	Apply
11	Explain current measurement using a digital multimeter.	CO2	3	Apply
12	Explain resistance measurement using a digital multimeter.	CO2	3	Apply
13	Explain safety precautions while using	CO2	1	Remember

	electronic instruments.			
14	Explain CRO and its block diagram.	CO2	2	Understand
15	Explain time and voltage measurement using CRO.	CO2	3	Apply
16	Explain function generator and its output waveforms.	CO2	2	Understand
17	Explain Arduino and its features.	CO3	1	Remember
18	Explain pin configuration of Arduino UNO.	CO3	2	Understand
19	Explain Arduino IDE and its components.	CO3	2	Understand
20	Write and explain LED blinking program using Arduino.	CO3	3	Apply

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Assignment-2				
Sr No	Question	COs	B.T	Competence
1	Explain push button interfacing with Arduino.	CO3	3	Apply
2	Explain buzzer interfacing with Arduino.	CO3	3	Apply
3	Explain DHT11 temperature and humidity sensor.	CO3	2	Understand
4	Explain ultrasonic sensor working principle.	CO3	2	Understand
5	Explain PIR sensor and its applications.	CO3	2	Understand
6	Explain water flow sensor working principle.	CO3	2	Understand

7	Explain LCD interfacing with Arduino.	CO4	3	Apply
8	Explain relay and its working principle.	CO4	2	Understand
9	Explain relay interfacing with Arduino.	CO4	3	Apply
10	Explain Arduino-based ON/OFF control system.	CO4	3	Apply
11	Explain ultrasonic distance measurement system using Arduino.	CO4	3	Apply
12	Explain temperature monitoring system using Arduino.	CO4	3	Apply
13	Explain motion detection system using PIR sensor.	CO4	3	Apply
14	Explain the importance of mini projects in electronics.	CO5	1	Remember
15	Design a simple Arduino-based mini project.	CO5	4	Analyze
16	Draw and explain block diagram of your mini project.	CO5	4	Analyze
17	Explain working of your Arduino-based mini project.	CO5	4	Analyze
18	List applications of IoT-based electronic systems.	CO5	2	Understand
19	Explain advantages of Arduino-based systems.	CO5	2	Understand
20	Explain real-time applications of sensors in IoT.	CO5	2	Understand