SGK GOVERNMENT DEGREE COLLEGE			
DEPARTMENT OF COMPUTER SCIENCE			
INTERNET OF THINGS			
III YEAR, V SEMESTER			
LESSON PLAN			
Unit I (10 hours)			
Hour	**Topic**	**Activity**	**Synopsis**
2-Jan	Fundamentals of IoT: Introduction and Characteristics	IoT Buzzword Bingo	Introduce IoT concepts and characteristics, engaging students with an interactive buzzword bingo game.
4-Mar	Physical & Logical Design of IoT	IoT System Design Workshop	Conduct a workshop to design physical and logical architectures for IoT applications.
6-May	Enabling Technologies in IoT	Technology Showcase	Present and discuss enabling technologies crucial for IoT through live demonstrations and examples.
8-Jul	IoT Applications: Home Automation, Smart Cities	Case Study Analysis	Analyze case studies on home automation and smart city applications of IoT to understand their impact.
10-Sep	IoT in Environmental Protection	Green IoT Project Brainstorming	Encourage students to brainstorm IoT projects addressing environmental concerns and propose solutions.
Unit II (10 hours)			
12-Nov	Sensor Networks and IoT Development Boards	Hands-on Sensor Exploration	Allow students to explore various sensors and IoT development boards to understand their functionalities.
13-14	RFID Principles and Components	RFID Simulation Exercise	Simulate RFID technology to demonstrate its principles and discuss its applications.

15-16	Wireless Sensor Networks for IoT	Wireless Networking Challenge	Engage students in a challenge to set up a small wireless sensor network to understand its practical aspects.
17-18	Connecting IoT Nodes	Node Networking Activity	Hands-on activity to connect and network IoT nodes to demonstrate communication in IoT.
19-20	WSN and IoT	Wireless Sensor Network Integration	Discuss how Wireless Sensor Networks (WSNs) are integrated into the broader IoT ecosystem.
Unit III (10 hours)			
21-22	WPAN Technologies for IoT	Wireless PAN Technology Analysis	Analyze various WPAN technologies and their relevance in IoT applications.
23-24	IP Based Protocols for IoT	Protocol Simulation and Comparison	Simulate and compare IP-based protocols used in IoT to highlight their differences and advantages.
25-26	Edge Connectivity and Protocols	Edge Device Setup and Communication	Set up edge devices and simulate communication to understand their role in IoT.
27-28	Security in IoT	IoT Security Simulation	Simulate security threats and measures to emphasize the importance of security in IoT.
29-30	Privacy and Ethical Challenges in IoT	Ethical Dilemma Discussion	Engage in discussions about the ethical challenges and dilemmas posed by IoT and its applications.
Unit IV (10 hours)			
31-32	Arduino Simulation Environment	Arduino IDE Hands-on Session	Conduct a hands-on session to familiarize students with the Arduino IDE and basic programming concepts.

33-34	Interfacing Sensors and Actuators with Arduino	Sensor and Actuator Challenge	Challenge students to interface various sensors and actuators with Arduino boards.
35-36	Overview of Sensors and Actuators	Sensor and Actuator Demonstration	Demonstrate the functioning and applications of different sensors and actuators used in IoT.
37-38	Interfacing Arduino with Cloud Platforms	Cloud Platform Integration	Guide students on integrating Arduino with IoT cloud platforms for data transmission and analysis.
39-40	Real-time IoT Applications	Real-time IoT Application Design	Engage students in designing and discussing real-time IoT applications.
Unit V (10 hours)			
41-42	Developing IoT Projects with Arduino	IoT Project Development	Facilitate a workshop where students implement IoT projects using Arduino and various sensors.
43-44	IoT Cloud Platforms and Integration	Cloud Platform Integration Workshop	Conduct a workshop to guide students in integrating IoT devices with cloud platforms.
45-46	Cloud and Fog Computing	Fog Computing Simulation	Simulate fog computing scenarios and discuss its role in IoT.
47-48	Privacy and Security in IoT	Privacy and Security Role Play	Engage students in a role-play activity to understand privacy and security concerns in IoT.
49-50	Final Project Showcase and Review	IoT Project Presentation	Allow students to showcase their final IoT projects, followed by a review and discussion on the learnings