

Month	Topic / Subtopic	Learning Outcomes	Pedagogy/ Methodology	Instructional Aids /Teaching Tools & Resources	Activities / Projects	Assessment
April & May	AI Project Lifecycle - Define the problem - Data Collection and Preparation - Model Development and Training - Model Evaluation and Refinement - Model Deployment Exercise Introduction of Raspberry Pi - Introduction to Raspberry Pi (history, models, uses). - Hardware components (GPIO pins, ports, SD card setup). - Install Raspberry Pi OS using Raspberry Pi Imager. OS navigation - Linux basics: terminal	- Differentiate between microprocessors and microcontrollers - Master programming basics, including commands, functions, variables, and control structures.	- Component Selection - Circuit Design - Hardware Setup - Programming - Testing and Debugging - Finalization	Hardware – Connecting wires 9v Battery - Battery Connector - Raspberry pi Module - Microcontroller - Connecting Cable	LED Blinking Connection with GPIO	

August & September	Soil Moisture Sensor • Working Principle • sensor connection • Program • Model Making Pulse(Heart Beat) Sensor • Working Principle • sensor connection • Program • Model Making	• Fundamentals, including pin descriptions, hardware connections, operation principles, and programming concepts.	• Objective Definition • Requirement Analysis • Algorithm Design • Programming • Testing • Optimization		Smart Agriculture System Smart Healthcare System	
October & November	Data and Fairness in AI • Role of Data • Importance of Data • Ensuring Fairness • Biasing • Transparency • Bias Check • Supervised Learning • Problem in Daily life • Model making solving daily life problem • Motor Introduction • Motor Driver • Safer environment	• Master programming concepts including keywords, functions, operators, data structures, loops, objects, and classes Apply knowledge through practical projects	• Objective Definition • Requirement Analysis • Algorithm Design • Programming • Testing • Optimization	• Hardware – Sensor Buzzer Connecting wires Battery Connector Rasberry pi Module Microcontroller Connecting Cable	Protective Small kid Playground Area	

December	Ethics and Responsible AI • AI ethics • Privacy in Digital world. • Unfair AI • Misinformation and Social Impact • AI tool effects • Accountability and Human Control					
January & February	3 D Designing • Interface Tour of Tinker cad's user interface and essential tools. Types of 3D Printers • Their capabilities. • Materials for 3D Printing • Choosing the right material for your design. • PLA G- Code • Explanation of G-Code and its role in 3D printing. • Discussing the importance of monitoring the printing process. • Participants generate	• 3D Modeling is an excellent opportunity to learn the basics of design and creation in a fun and engaging way. • This is specifically designed for children who are interested in exploring the world of design and creation.	• Objective Definition • Requirement Analysis • 3-D Design • Visualization • Testing Optimization	• Software - Tinker cad • 3-D pens • 3 –D Printer Demo and printing	Design their own creation with ideas.	

	G-Code for their Tinkercad designs.					
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