Swarm Robotics

About Project:

Swarm robotics is a new approach to the coordination of multi robot systems which consist of large numbers of mostly simple physical **robots**. It is supposed that a desired collective behavior emerges from the interactions between the **robots** and interactions of **robots** with the environment.

It Deals with the Master Slave Configuration, The Master gives the Command to the Slave robot .Master Will be having the sensors connected to it both robots run in NOVABOARD(atmega-328).Their communication link via Bluetooth(HC-05).The master robot pairs to the slave robot automatically and is programmed in HC-05.

Training Kit Contains:

Swarm Robotics project is a combination of Master and Slave Robots. A kit containing the following components to build Master and Slave Robots .

* Novaboard (At mega 328 Development board)

* UART

* Bluetooth (HC-05)-2

* USB to UART Cable

* Chassis, DC Motors, Wheels, Spacers ,Screws

* Wire Stripper, Screw Driver

About Course:

Module 1	**SWARM ROBOT** • Introduction of swarm • Application
Module 2	**Introduction of Nova Board(at mega 328 development board)** • Description of Micro Controller • Basic programming in Novaboard
Module 3	**Robot Design** • Building Chassis • Attach Motors & Wheels
Module 4	**How does Robot move** • Interfacing of motor into Novaboard • Motor Programming in Novaboard
Module 5	**Serial Communication** • Introduction to UART Module • Working of RX & TX pins • Interfacing of UART
Module 6	**Bluetooth Module** • Configuration of Bluetooth(HC-05) • Programming the Bluetooth • Interfacing Bluetooth With Nova board

Module 7	**Bluetooth Controlled Robot** • PC Controlled Robot (wired) • RC Controlled Robot
Module 8	**Configure Master and Slave** • Pairing of Two Bluetooth • Programming of Swarm robot in Nova board.
Module 9	**Testing of Robot** • Upload project video • Download certificate