COURSE TITLE	**:**	**MICROCONTROLLER LAB**
COURSE CODE	**:**	**6139**
COURSE CATEGORY	**:**	**A**
PERIODS/WEEK	**:**	**5**
PERIODS/SEMESTER	**:**	**75**
CREDITS	**:**	**3**

General Outcomes :

Sl.	G.O	Student will be able to
1	**1**	To know AVR Assembly Language Programming
2	**1**	To understand Embedded C
	2	To understand AVR Programming in C
3	**1**	To understand Timer/Counter and Interrupt Programming
4	**1**	To understand the interfacing of various systems with AVR microcontroller

Specific Outcomes:

1.1 Familiarisation with microcontroller development system board based AT Mega32 (such as Ardino, MicroHope etc)

1.1.1 The interfacing with computer, transfer of programs, executing simple programs.

1.2 To Understand Assembly Programming of AVR

1.2.1 Write simple assembly language programs (Bit manipulation instructions - on/off , flashing, rotating LEDs)

2.1 Familiarisation with compilers – gcc compiler tools

2.1.1 Write simple programs in AVR using C to implement Bit manipulation, arithmetic and logical, data conversion

3.1 To understand Interrupts and Timer/Counter Programming

3.1.1 Write C programs to demonstrate the working of interrupts and timer/counters

4.1 To understand Interfacing in AVR

4.1.1 Write C programs implement interfacing of peripherals (LCD, Serial port, keyboard, ADC,DAC, sensors)