MANGALORE UNIVERSITY

Department of Electronics

MSc Electronics

ELS 507 - PIC Microcontroller

Course Outcome:

1. Describes detailed architecture of the PIC microcontroller and detailed classification of the PIC family.
2. Makes aware of interrupts and describing about I/O ports to handle external signal.
3. Programing aspects to handle interfacing device such as Display system, DAC and ADC.
4. Analyze various examples of PIC microcontroller.
5. Ability to develop application based projects

Unit-I

PIC18FXX Microcontrollers, PIC architecture & Assembly Language Programming, Branch, Call and Time Delay Loop, PIC I/O port programming, Arithmetic Logic Instructions and Programs.

12 Hours

Unit-II

Bank Switching, Table processing, Macros and Modules, PIC Programming In C, PIC Timer Programming, and Serial Port Programming.

12 Hours

Unit-III

Interrupt Programming, ADC, DAC and Sensor Interfacing, Using Flash and EEPROM Memory for Data Storage, CCP and ECCP Programing, SPI Protocol and DS 1306 RTC Interfacing.

Books:

1. Pic Microcontroller and Embedded Systems: Using Assembly And C For Pic 18" Pearson Education
2. Tim Wilmshurst, "Designing Embedded Systems using PIC microcontrollers Principles and Applications". Second Edition, Elsevier, 2010
3. Microcontrollers: Theory and Applications", Tata McGraw-Hill Education.
4. J. B. Preatman, "Design with PIC Microcontrollers"1st Ed, Prentice Hall
5. Bohdan Borowik, "Interfacing PIC Microcontrollers to Peripheral Devices". Springer, 2011

12 Hours