B.E ELECTRICAL AND ELECTRONICS ENGINEERING(EEE)
CHOICE BASED CREDIT SYSTEM (CBCS)
SEMESTER – V

17EE52 MICROCONTROLLER (Core Course) (continued)

Module-5		**Teaching Hours**
Interfacing: LCD interfacing, Keyboard interfacing. **ADC, DAC and sensor interfacing:** ADC 0808 interfacing to 8051, Serial ADC Max1112 ADC interfacing to 8051, DAC interfacing, Sensor interfacing and signal conditioning. **Motor control: Relay, PWM, DC and stepper motor:** Relays and opt isolators, stepper motor interfacing, DC motor interfacing and PWM. **8051 interfacing with 8255:** Programming the 8255, 8255 interfacing, C programming for 8255.		**10**
Revised Bloom's Taxonomy Level	L_1 – Remembering, L_2 – Understanding, L_3 – Applying, L_4 – Analysing. ■	

Course outcomes:

At the end of the course the student will be able to:

- Discuss the history of the 8051 and features of other 8051 family members and the internal architecture of the 8051.
- Explains the use of an 8051 assembler, the stack and the flag register, loop, jump, and call instructions.
- Discuss 8051 addressing modes, accessing data and I/O port programming, arithmetic, logic instructions, and programs.
- Develop 8051C programs for time delay, I/O operations, I/O bit manipulation, logic and arithmetic operations, data conversion and data serialization
- Discuss the hardware connection of the 8051 chip, its timers, serial data communication and its interfacing of 8051to the RS232.

Graduate Attributes (As per NBA)

Engineering Knowledge, Problem analysis.

Question paper pattern:

- The question paper will have ten full questions carrying equal marks. Each full question consisting of 16 marks.
- There will be two full questions (with a maximum of four sub questions) from each module.
- Each full question will have sub question covering all the topics under a module.

Textbook

1	The 8051 Microcontroller and Embedded Systems Using Assembly and C	Muhammad Ali Mazadi	Pearson	2nd Edition, 2008.

Reference Books

1	The 8051 Microcontroller	Kenneth Ayala	Cengage Learning	3rd Edition, 2005
2	The 8051 Microcontroller and Embedded Systems	Manish K Patel	McGraw Hill	2014
3	Microcontrollers: Architecture, Programming, Interfacing and System Design	Raj Kamal	Pearson	1st Edition, 2012