**LESSON PLAN**

**Name of Faculty : Ajay Kumar**

**Discipline : Electronics & Comm. Eng.**

**Semester : 5th**

**Subject : Microcontrollers**

**Lesson Plan Duration : 16 weeks**

**Work load (Lecturer/Practical) per week (In hours): Lecturers—04 , Practical--03**

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| **Week** | **Lect. day** | **Topic (Including Assignment/ Test)** | **Pract. day** | **Topic** |
| 1st | 1 | Architecture of 8051  | 1st | Familiarization with micro-controller Kit and different sections |
| 2 | Architecture of 8051 |
| 3 | Pin Details |
| 4 | Pin Details |
| 2nd | 5 | I/O port structure | 2nd | Familiarization with assembly Language programming (PC based) |
| 6 | I/O port structure |
| 7 | Memory organization |
| 8 | Memory organization |
| 3rd | 9 | Special function Registers | 3rd | Programming to interface switches and LEDs |
| 10 | Special function Registers |
| 11 | External Memory |
| 12 | External Memory |
| 4th | 13 | External Memory | 4th | Programming and interface of seven segment and LCD |
| 14 | Assignment |
| 15 | Test |
| 16 | Instruction set of 8051 |
| 5th | 17 | Instruction set of 8051 | 5th | Programming and interface of graphical LCD. |
| 18 | Instruction set of 8051 |
| 19 | Instruction set of 8051 |
| 20 | Addressing Modes |
| 6th | 21 | Addressing Modes | 6th | Revision |
| 22 | Types of Instruction |
| 23 | Types of Instruction  |
| 24 | Types of Instruction |
| 7th | 25 | Types of Instruction  | 7th | Programming to interface Hex4\*4 matrix keypad. |
| 26 | Timer operation |
| 27 | Timer operation |
| 28 | Serial port operation |
| 8th | 29 | Serial port operation | 8th | Programming for A/D converter, result on LCD |
| 30 | Interrupts |
| 31 | Assignment  |
| 32 | Test |
| 9th | 33 | Assembler Directives | 9th | Programming for D/A converter ,result on LCD |
| 34 | Assembler Directives |
| 35 | Assembler operation |
| 36 | Assembler operation |
| 10th | 37 | Assembler operation | 10th | Revision |
| 38 | Compiler operations |
| 39 | Compiler operations |
| 40 | De bugger |
| 11th | 41 | De bugger | 11th | Programming for serial data transmission from PC to kit or vice versa. |
| 42 | Assignment |
| 43 | Test |
| 44 | Keypad interface |
| 12th | 45 | Keypad interface | 12th | Programming and interfacing of relay and buzzer |
| 46 | 7-segment interface |
| 47 | 7-segment interface |
| 48 | LCD interface |
| 13th | 49 | LCD interface | 13th | Revision |
| 50 | LCD interface |
| 51 | A/D interfacing |
| 52 | A/D interfacing |
| 14th | 53 | D/A interfacing with  | 14th | Revision |
| 54 | Programming |
| 55 | RTC interface |
| 56 | RTC interface |
| 15th | 57 | Assignment | 15th | Revision |
| 58 | Test |
| 59 | Introduction of PIC Microcontrollers |
| 60 | Introduction of PIC Microcontrollers |
| 16th | 61 | Introduction of PIC Microcontrollers | 16th | Revision |
| 62 | Introduction of PIC Microcontrollers |
| 63 | Assignment |
| 64 | Test |