**Lesson Plan**

Name of faculty : HANUMAN

Discipline : Electrical Engineering

Semester : 6th

Subject : MICROCONTROLLER & APPLICATIONS

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Week | Theory | | **Date of Actual covered** | **Signatures** | | | |
| Lecture  Day | Topic (Including assignment / Test) | **Concerned teacher** | **HOD** | **DP** | |
| 1st | 1 | Comparing b/w microprocessor & microcontroller |  |  |  | |  |
| 2 | Technological trends in microcontroller developments |
| 3 | Survey of microcontroller |
| 4 | 4-bit microcontroller |
| 2nd | 5 | 8-bit microcontroller |  |  |  | |  |
| 6 | 16-bit microcontroller |
| 7 | 32-bit microcontroller |
| 8 | Applications of microcontroller |
| 3rd | 9 | Applications of microprocessor |  |  |  | |  |
| 10 | Scope of microcontroller |
| 11 | Scope of microprocessor |
| 12 | Assignment on microcontroller |
| 4th | 13 | Block diagram, pin diagram of 8051 |  |  |  | |  |
| 14 | Functional description of internal units |
| 15 | Registers, PSW, RAM/ROM |
| 16 | Stack, oscillator & clock |
| 5th | 17 | I/O pins, ports & circuits connecting external memory |  |  |  | |  |
| 18 | Counters & timers, Serial data interrupt |
| 19 | Serial data transmission/reception & transmission modes |
| 20 | Timer flag interrupt, External interrupt |
| 6th | 21 | S/w generated interrupts |  |  |  | |  |
| 22 | External memory & memory space decoding |
| 23 | Expending I/Os |
| 24 | Memory mapped I/O reset & clock circuits |
| **7th** | **1st Minor Test** | | | | | | |
| 8th | 25 | 8051 instruction syntax, Addressing modes |  |  |  | |  |
| 26 | Data transfer instructions |
| 27 | Logical instructions, Arithmetic instructions |
| 28 | Jump & call instructions |
| 9th | 29 | Interrupts & interrupts handler subroutines |  |  |  | |  |
| 30 | Writing assembly language programs |
| 31 | Time delay |
| 32 | Pure s/w time delays, s/w polled timers |
| 10th | 33 | Pure H/w delay |  |  |  | |  |
| 34 | Lookup tables |
| 35 | Serial data transmission using time delays & polling |
| 36 | Interrupt driven serial transmission & reception |
| 11th | 37 | Interfacing keyboards |  |  |  | |  |
| 38 | Programs for small keyboards |
| 39 | Programs for matrix keyboards |
| 40 | Interfacing multiplexed displays |
| 12th | 41 | Numeric displays |  |  |  | |  |
| 42 | LCD display |
| 43 | Measuring frequency & pulse width |
| 44 | Interfacing ADCs |
| 13th | 45 | Interfacing DACs |  |  |  | |  |
| 46 | H/w circuits for handling multiple interrupts |
| 47 | Assignment on assembly language programs |
| 48 | Programs for matrix keyboards |
| **14th** | **2nd Minor test** | | | | | | |
| 15th | 49 | 8051 serial data communication modes-mode-0 |  |  |  | |  |
|  | 50 | Mode-1 |
|  | 51 | Mode-2 |
|  | 52 | Mode-3 |