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# Thapar Institute of Engineering & Technology
## Electrical and Instrumentation Engineering Department

717

**Microcontroller and its Applications** | **EC - 019** | **Instr : MD Singh**

**End semester exam** | **11-12-2006** | **B.E. Final Year** | **M.M. 36**

Q1. Attempt ANY **THREE**

a) Draw the architectural block diagram of 8051 and ***briefly*** explain it.
b) Write a programme to send data to P2 port whatever it is getting from P1 continuously. However it also send some data at P0 whenever it comes at serial port at 4800 baud rate.
c) Draw the circuit diagram of 4-bit LCD interface with 8051 with all necessary connections.
d) Write down the algorithm to acquire data from ADC 808/809.

3x4 = 12

Q2. Attempt ANY **FOUR**

a) Explain LJMP, SJMP and AJMP.
b) When we use RD/RW pin of LCD in Read mode?
c) Explain the working of 3x3 matrix keypad with 8051
d) Main differences between PIC 16F877 and AT89C51
e) Is it possible to double the baud rate in 8051 without changing the crystal frequency?
f) What is Look up table? How it can be used in a programme?

4x3=12

Q3. Attempt ANY **SIX**

a) What is DA instruction? Explain with an example.
b) How will you set baud rate of 2400 for serial comm. in 8051.
c) What happens if an interrupt occurs during an interrupt?
d) Draw the pin diagram of RS232 connector.
e) How will you count an event occurrence with 8051? Explain with flow chart/steps.
f) What is SBUF register?
g) What is Indexed addressing?
h) Differentiate between MOVC and MOVX instruction with an example.
i) Differentiate between Level triggered and Edge triggered interrupt with diagram.

6x2=12

*Evaluated sheets will be shown on 16-12-06 at 3pm in instructor's office.*