

Cp Eng 213 – Exam #2 Review Topics

Ch3. Instruction set

Addressing modes of 8051

- Register addressing
- Direct addressing
- Immediate addressing
- Relative addressing
- Indirect addressing
- Long addressing
- Indexed addressing
- Examples for each addressing scheme

8051 instructions

- Quick reference chart in Appendix A
- Mnemonic, opcode and operand
- Instruction code summary in Appendix B
- Instruction definitions in Appendix C
- Should know how to use those appendices

8051 instruction types

- Arithmetic
- Logical
- Data transfer
- Boolean variable
- Program branching
- Examples for each type

Review all in-class examples and homework problems

Ch7. 8051 ASM language programming

General format for each line

ASM directives

- Segment selection
 - Absolute segments
 - Relocatable segments

Labels

- Variables declared in segments
- Variables declared outside of segments
- Constants

More ASM directives

- EXTERN
- PUBLIC
- END
- EQU

Immediate data expressions

- Hex
- Decimal
- Bin

SFR expressions

Bit address (ex, D7H)

Register name + bit location (ex, PSW.7)

Byte address + bit location (ex, D0H.7)

Bit register name (ex, CY)

General program layout

ASM programming and debugging using mVision2

Review all in-class examples and homework problems

Remarks

- 1 hour 15 min test.
- Open book and closed notes. One 2-sided 8.5x11 crib sheet is allowed.
- Show your entire work/derivation for maximum partial credit.
- Calculators are allowed, but please use basic operations such as addition, subtraction, multiplication and division only.
- Manage your time wisely!