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FOURTH SEMESTER B.Tech. (COE)

MID SEMESTER EXAMINATION *MARCH-2018*

CO-206 COMPUTER ORGANIZATION AND ARCHITECTURE

Time: 1:30 Hours *Max. Marks: 25*

Note: Answer **ALL** questions. All questions carry equal marks.
Assume suitable missing data, if any.

1 Explain the followings:-
[a] Half Adder and Full Adder .
[b] Bidirectional shift register.

2[a] What is Control Unit? Discuss any two methods briefly for implementation of control unit.

[b] Register A holds the 8 bit binary 11011001. Determine the B operand and logic micro operation to be performed in order to change the value in A to (a) 01101101 (b) 11111101.

3[a] Describe the various phase of instruction cycle and Explain all the memory reference instructions.

[b] The content of AC in the basic computer is hexadecimal A937 and the initial value of E is 1. Determine the contents of AC, E, PC, AR, and IR in hexadecimal after the execution of the CLA instruction. Repeat 11 more times, starting from each one of the register-reference instructions. The initial value of PC in hexadecimal 021.

4[a] What are the basic difference among the instruction, call subroutine and instruction program interrupt?

[b] Describe first pass assembler and second pass assembler. Explain its working mechanism using flow charts.

5[a] Explain the working of micro-program sequencer. Draw the respective block diagram.

[b] Explain the difference between hardwired control and micro programmed control? Is it possible to have a hardwired control associated with a control memory?