

Total No. of Pages 02  
FOURTH SEMESTER

Roll No. ....  
B.Tech. (CO)

SUPPLEMENTARY EXAMINATION

SEP.-2019

CO206 COMPUTER ORGANIZATION & ARCHITECTURE

Time: 3:00 Hours

Max. Marks: 50

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

- 1[a] Discuss the bus structure of a computer system.  
[b] Design a hardware circuit to implement logical shift, arithmetic shift and circular shift operations. State your design specifications.
- 2[a] Explain various addressing modes with example of each.  
[b] Give the flow table for register contents used in implementing booth's algorithm for the multiplier = - 6 and multiplicand = + 5.
- 3[a] Describe the various phase of instruction cycle.  
[b] Explain the difference between hardwired control and micro programmed control? is it possible to have a hardwired control associated with a control memory?
- 4 [a] Explain the following mapping procedure:-  
i) Direct mapping      ii) Associative mapping  
[b] Give the organization of a  $2M \times 32$  memory module using  $512k \times 8$  memory chips. Explain the organization.
- 5 [a] Explain DMA based data transfer. Give the respective block diagram.  
[b] Define and Explain the following:-  
i) Multiplexer      ii) Decoder

6 [a] Explain and Implement full adder circuit using 2 half adder.  
[b] Draw the flow chart of first pass assembler and second pass assembler. Explain its working mechanism.

7 Write short on any two notes:-

[a] CISC and RISC architectures.

[b] Control unit.

[c] Stack organization.