

Third Semester B. E. (Computer Science and Engineering) Examination

COMPUTER ORGANIZATION

Paper – 3 KS 05 / 3 KE 05

(USC – 10307)

P. Pages : 2

Time : Three Hours]

[Max. Marks : 80

- Note :** (1) Due credit will be given to neatness and adequate dimensions.
(2) Assume suitable data wherever necessary.
(3) Illustrate your answer wherever necessary with the help of neat sketches.
(4) Use pen of Blue/Black ink/refill only for writing the answer book.

1. (a) What are addressing Modes ? Explain with suitable example. 6
(b) Explain basic I/O operations with suitable diagram. 7

OR

2. Explain following terms with neat sketch :—
(a) Byte Addressability 5
(b) Big Endian and Little Endian. 8
3. (a) Explain timing diagram of Read Operation. 7
(b) Explain hardwired control unit with neat sketch. 7

OR

4. (a) Explain prefetching Micro-instructions in detail 8
(b) Explain how the word is fetched from memory. 6
5. (a) What is DMA ? Explain two channel DMA controller with block diagram. 6
(b) What is handshake protocol ? Explain the timing diagram of handshake control of data transfer during an input operation. 7

OR

6. (a) What is bus arbitration ? Explain various approaches to bus arbitration. 7
(b) Explain the following terms :—
(i) Interrupt nesting 3
(ii) SCSI Bus. 3
7. (a) Explain the working of cache memory. What are the various replacement algorithm used in cache memory. 7
(b) Explain Virtual Memory organization with neat sketch. 7

OR

8. (a) Draw the diagram of synchronous DRAM and explain it. 7
(b) Compare SRAM and DRAM interms of speed, size and cost. 7
9. (a) Explain Booths algorithm with suitable example. 7
(b) Give the rules for performing arithmetic operations on floating point numbers. 6

OR

10. (a) Explain signed addition and subtraction with example. 6
(b) Draw and explain four bit carry look ahead adder. 7
11. (a) Explain the use of Modem in communication networks. 6
(b) Explain the organization and accessing of data on magnetic disc. 7

OR

12. (a) Differentiate between synchronous and asynchronous transmission. 6
(b) Explain the construction and working principle of Magnetic disc in detail. 7

