NEW SCHEME

CS46

Reg. No. | | | | | | | | | | |

Fourth Semester B.E. Degree Examination, January/February 2006

Common to BM/EC/EE/TE/ML/IT/CS/IS

Computer Organisation

Time: 3 hrs.) (Max.Marks : 100

Note: *1. Answer any FIVE full questions.*
2. All questions carry equal marks.

1. (a) Explain in brief the evolution of computer system. **(6 Marks)**

   (b) What is pipelining? How does it improve the performance? **(8 Marks)**

   (c) Write a short note on multiprocessor and multi computers. **(6 Marks)**

2. (a) Explain various types of rotate instructions **(6 Marks)**

   (b) Explain the features of RISC processor. **(8 Marks)**

   (c) Write the instruction format MOV AX CX instruction. **(6 Marks)**

3. (a) What are condition code flags? Explain the use of them. **(6 Marks)**

   (b) Explain basic instruction types with the help of examples. **(4 Marks)**

   (c) What is an addressing modes? Explain different types of addressing modes. **(10 Marks)**

4. (a) Draw and explain the timing diagram for modified synchronous input data transfer with multiple clock cycles. **(6 Marks)**

   (b) Which type of I/O devices are interfaced through DMA? Explain the bus-arbitation process used for DMA? **(10 Marks)**

   (c) Give comparison between memory mapped I/O and I/O mapped I/O. **(4 Marks)**

5. (a) Explain various types of SCSI bus termination. **(5 Marks)**

   (b) Explain the features of USB. **(5 Marks)**

   (c) Describe SDRAM and DDR SDRAM operations for data transfer between main memory and cache memory system. **(10 Marks)**

6. (a) In a two level virtual memory, $tA_1 = 10^{-7}$ and $tA_2 = 10^{-2}S$. What must be the hit ratio 'H' in order for the access efficiency to be atleast 90 percent of its maximum possible value. **(5 Marks)**

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(b) Compare flash drives with hard disk drives. **(5 Marks)**

(c) Draw the disk controller interface connection and explain the major functions of disk controller. **(10 Marks)**

7. (a) Write a short note on look ahead carry generator. **(5 Marks)**

(b) Explain how Booths algorithm is suitable for signed number multiplication in comparison of conventional shift and add method. **(10 Marks)**

(c) Draw and explain typical hardwired control unit. **(5 Marks)**

8. (a) Draw and explain the multiple bus organisation. Explain its advantages. **(10 Marks)**

(b) With a block diagram, explain the operation of a digital camera? **(10 Marks)**

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