

9/12/09

40: 2ndExm.09-AM(a)

Lab

Con. 5119-09.

ME / ETAX / sem II

Micro-and System II

Microprocessors & System II

(3 Hours)

10:30 to 12:30

BB-6158

[ Total Marks : 100

- N.B.: (1) Question No. 1 is **compulsory**.  
(2) Attempt any **four** questions out of **remaining** questions.  
(3) State any additional **data** assumed, if **necessary** to answer.

1. (a) With suitable diagrams explain superscalar nature and pipe line features for Pentium. 10  
(b) Giving timing diagram, explain when and how the burst bus cycles are conducted by Pentium. 10
2. (a) Explain reflected wave switching and its use in PCI bus. Why bus parking is needed? How it is done? 10  
(b) Explain how interrupts are handled in PCI bus. 10
3. (a) Describe the data and code cache structures in detail for Pentium. 10  
(b) Explain cache control signals of Pentium. How they can be used to maintain cache coherency in the Pentium based machine? 10
4. (a) Explain with suitable diagrams how data transactions occur on the USB bus. 10  
(b) Explain how bus arbitration is achieved in PCI bus. What is hidden bus arbitration? 10
5. (a) Describe the requirements for a real time operating system. 10  
(b) Explain the functions of microkernel for QNX operating system. 10
6. (a) Explain the functions of following PCI signals. 10  
(i) FRAME (ii) IRDY (iii) DEVSEL (iv) SDONE (v) SBO  
(b) Explain bus access Latency for PCI bus. Explain the function of Latency Timer. 10
7. Write notes on any **two** of the following :— 20
  - (a) Fire Wire bus
  - (b) Special bus cycles for Pentium
  - (c) Branch prediction logic of Pentium
  - (d) System management mode in Pentium.