

B.E. (Compn)

Sem 7 (Rev.)  
Advanced Microprocessors  
(REVISED COURSE)

15/12/07  
CD-7137

Con/5291-07.

(3 Hours)

[Total Marks : 100

- N.B. :** (1) Question No. 1 is **compulsory**.  
(2) Attempt any **four** questions out of remaining **six** questions.

1. (a) Differentiate segmentation in real mode and in protected mode. 5  
(b) State the role of I/O permission bitmap in protection of X86 processor. Also explain the function of IOPL bits. 5  
(c) In sun SPARC processor, explain the function of the registers : processor state register, window Invalid Mask register, PC and nPC, Ancillary state register. 5  
(d) Explain Debug registers of X86 processor. 5
2. (a) State the features of Intel Itanium processor. Draw the block diagram of Itanium processor and explain in brief. 10  
(b) State the features of PCI bus. Draw a work station based on PCI bus and explain. 10
3. (a) Draw and explain Pentium Processor architecture. Highlight architectural features. 10  
(b) Explain the following Pentium-II instructions : 10  
    CPUID, SYSENTER, SYSEXIT, FXSAVE, FXRSTOR.
4. (a) Show steps in segment translation of X86 processor. Explain various segment descriptor bits/fields in detail. 10  
(b) Compare X86 processors (8086 to Pentium) with respect to the points : 10  
    size of processor, CK frequency of operation, No. of transistors on semi-conductor die, size of physical memory, size of prefetch queue, performance in MIPS, size of L1 cache.
5. (a) State the features of SCSI interface. Compare single ended and differential SCSI. Explain in brief SCSI bus phases. 12  
(b) Explain EFLAG bits of pentium. 8
6. (a) Explain with block diagram, architecture of 80286 microprocessor. 10  
(b) Draw and explain DEC Alpha AXP processor architecture – 21064. 10
7. Write short notes : 20
  - (a) Type and limit checking aspects of segment level protection
  - (b) Instruction formats of sun SPARC
  - (c) CALL gate mechanism
  - (d) V – 86 mode of X86 processor.