lib VII / Rev / Comp / Adv Micro 29/05/07

Con/2993–07. (REVISED COURSE) ND–926

(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) Show the register model of X86 processor and explain all control registers and memory management registers in detail. **12**
   (b) State and explain operating modes of X86 family of processors. Show mode transition diagram highlighting important features. **8**

2. List important features of pentium-2 processor. Differentiate between Pentium-2 xeon and celeron versions. Draw a typical pentium-2 xeon system and explain. Show memory map of pentium-2 system and discuss the same. **20**

3. (a) Explain in brief integer instruction pipeline stages of pentium processor. List the steps in instruction issue algorithm. **10**
   (b) List SCSI bus features. Explain SCSI bus phases with diagram. **10**

4. (a) State the features of PCI bus. Draw a typical PCI workstation and explain in brief. **10**
   (b) Draw and explain Super-SPARC processor architecture. **10**

5. (a) Explain the state transition diagram for pentium processor bus cycles. **10**
   (b) Explain segment translation mechanism in detail for X86 processors. List and explain various fields of non-system segment descriptor. **10**

6. (a) Draw block diagram of DEC Alpha AXP processor 21064 and explain the function of each block. **10**
   (b) Draw block diagram of 80186 processor and explain. **10**

7. Write short notes on : **20**
   (a) ISA bus versions and bandwidth
   (b) PCMCIA cards and slots
   (c) Intel's Net burst microarchitecture
   (d) Branch prediction logic.