

Advance Microprocessors

N.B. : (1) Question No. 1 is compulsory.

(2) Attempt any four questions out of remaining six questions.

1. (a) Draw block schematic of pentium processor and explain its operation in brief. 10
- (b) Differentiate between GDT and LDT and state the role of GDTR, IDTR and LDTR with suitable diagrams. 10
2. (a) Draw DEC Alpha AXP processor 21064 architecture and explain each block. 10
- (b) Draw and explain various instruction formats of SPARC processor. 10
3. (a) Explain floating point pipeline stages of pentium processor in brief. 10
- (b) List the features of 8-bit and 16-bit ISA. Compare bus bandwidths of EISA, MCA and PCI bus. 10
4. (a) Explain the state transition diagram for pentium processor bus cycles. 10
- (b) Draw the architecture of super SPARC and explain. 10
5. (a) Discuss in detail, the evolution of pentium processor with regard to the new features added in every model i.e. pentium-I to pentium-IV. 10
- (b) Explain the address translation mechanism in X86 processor. List all the steps in segment translation. 10
6. (a) Draw the pentium-4 Willamette architecture and explain in brief each block. 10
- (b) Explain the following instruction with respect to pentium processor. 10
 - (i) $\overline{\text{SMI}}$
 - (ii) RDTSC
 - (iii) INIT
 - (iv) WRMSR
 - (v) IRETD
7. Write short notes on – 20
 - (a) Layered architecture of SCSI
 - (b) Comport Vs. USB
 - (c) Hyperpipelined technology – advantages and drawbacks
 - (d) VM 86 mode.