

Time 3 hrs.

Max Marks: 80

- Notes: 1. Q. 1 is compulsory
2. From remaining answer any 3 questions.
3. Draw neat diagram wherever necessary

- Q.1 a) Write instruction issue algorithm used in Pentium. 5
b) Draw format of selector and explain its field. 5
c) Explain power on reset circuit used in 8086 system. 5
d) Discuss control word format for Bit Set Reset (BSR) mode of 8255 PPI. 5
- Q.2 a) Explain maximum mode of 8086 microprocessor. 10
b) Interface three 8259s with 8086 in minimum mode and explain its functionality in fully nested mode. 10
- Q.3 a) How flushing problem is minimised in Pentium? Explain. 10
b) Draw block diagram of Super SPARC and explain in brief. 10
- Q.4. a) Discuss data cache organisation of Pentium. 10
b) Explain address translation mechanism used in 80386 DX. 10
- Q.5 a) Design 8086 based system with following specifications. 10
i) 8086 is working in minimum mode at 10 MHz.
ii) 8KB EPROM using 2 KB chips.
iii) 16 KB SRAM using 8 KB chips.
Discuss system with memory address map.
b) Draw and explain EFLAG register format of 80386 DX. 10
- Q.6 Answer any four. 20
a) Write addressing modes of following instructions of 8086.
i) MOV al, [bx + si] ii) AND cl, [2000]
iii) ADD ax, [bx + si + 2000] iv) IN al, dx
v) POP BX
b) Draw and discuss timing diagram for read operation in minimum mode of 8086.
c) Explain memory segmentation of 8086.
d) Explain in short data types of SPARC.
e) List features of 8253.