

**III B.Tech II Semester Supplementary Examinations, Apr/May 2006**  
**MICROPROCESSORS AND MICROCONTROLLERS**  
( Common to Electrical & Electronic Engineering, Electronics &  
Communication Engineering, Electronics & Instrumentation Engineering,  
Bio-Medical Engineering, Electronics & Control Engineering and Electronics  
& Telematics)

**Time: 3 hours****Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. (a) Draw the complete block diagram of 8086 architecture. Explain the functions of BIU and EU. [12]  
(b) Explain the importance of memory segmentation. Explain different segments in 8086. [4]
2. (a) Explain the use of Debug and Test registers of 80386. [8]  
(b) Draw and discuss the Paging mechanism of 80386. [8]
3. (a) Explain the following instructions of MC 68000
  - i. BFCHG
  - ii. BSR
  - iii. CAS2
  - iv. FBCC
  - v. SUBA  
(b) Explain how different data sizes are handled in MC 68000? Explain.  
(c) How many address spaces does 68000 provide and how I/O devices are addressed? [16]
4. (a) Explain the differences between the CISC and RISC processors? [8]  
(b) Explain the advantages of VLSI realization when a microprocessor uses RISC architecture? [8]
5. (a) What do you understand by Super scalar architecture? [10]  
(b) Bring out the architectural differences between Pentium and Pentium Pro microprocessors. [6]
6. (a) Explain the interior structure of Pentium Pro microprocessor with neat schematic diagram? [12]  
(b) Explain the pipeline feature of Pentium Pro microprocessor? [4]
7. (a) How many ports are available in 8051? Out of them, which port pins, are individually programmable? [4]  
(b) Explain the port pin circuits for all the ports with neat diagrams? [12]

8. (a) Explain the terms: [3+4]
- i. Baud rate in the 8051
  - ii. SCON register
- (b) List out the steps involved in programming the 8051 to transfer data serially.

[9]

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