

**III B.Tech II Semester Supplementary Examinations, April/May 2005**  
**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.  
(b) Explain the importance of memory segmentation. Explain different segments in 8086.
2. (a) Discuss about descriptors supported by 80386.  
(b) Draw and discuss the paging mechanism of 80386.
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?
4. (a) Explain how pipelining improves the speed of operation?  
(b) What is score boarding and its use in RISC?
5. (a) Explain the features of Level 1 instruction and data caches of Pentium microprocessor.  
(b) Discuss the functions of branch prediction and Branch Target Buffer of Pentium microprocessor.
6. (a) Explain the various stages involved in the development of Pentium based systems?  
(b) Explain the use of in circuit emulator in a development system? Discuss ICE for Pentium based system development?
7. (a) Distinguish between a microprocessor and a micro controller?  
(b) Describe the hardware features of 8051?

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

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