

**III B.Tech II Semester Supplementary Examinations,  
November/December 2005  
MICROPROCESSOR AND INTERFACING  
(Mechatronics)**

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

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

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1. (a) What are the arithmetic and logical operations performed in 8085 Microprocessor?  
(b) What are the different registers in 8085 Microprocessor? Discuss their functions. [8+8]
2. (a) Explain the flag register of 8086.  
(b) Explain the concept of memory segmentation.  
(c) Explain, when Queue is failing to speed up the execution. [6+6+4]
3. (a) Write a program to sort a given array in descending order.  
(b) Write short notes on the following.
  - i. SAR
  - ii. JNAE
  - iii. MUL
  - iv. LAHF[8+8]
4. (a) What is the necessity of relocation? Explain the support provided by 8086 for relocation capability  
(b) Give the address map of interrupt vector address table? Explain with illustration how Int 20H is executed?  
(c) Explain different ways of passing parameters to subroutine? [8+4+4]
5. What is meant by device polling and explain how it is implemented. Also mention the drawbacks of polling the I/O devices. [16]
6. Explain the pin configuration of 8255 and explain their functions. [16]
7. (a) With a neat block diagram explain the working principle of floppy disk controll.  
(b) Explain how DMA controller is used to interface floppy disk controller. [8+8]
8. (a) Discuss the software design aspects of multiprocessor systems.  
(b) Describe the functions of following signals of 8087.
  - i. BUSY
  - ii.  $\overline{RQ} / \overline{GT_0}$
  - iii.  $\overline{RQ} / \overline{GT_1}$

iv.  $QS_0$  and  $QS_1$

v. INT.

[8+8]

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