

FACULTY OF ENGINEERING

B.E. III/IV Year (E & EE/Inst.) II Semester (Main) Examination, May/June 2011

MICROPROCESSORS AND MICROCONTROLLERS

Time : 3 Hours]

[Max. Marks : 75

Answer all questions from Part A.

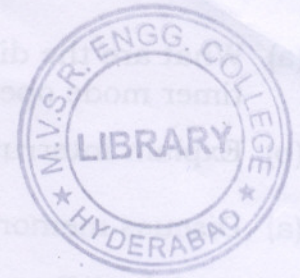
Answer any five questions from Part B.

Part A – (Marks: 25)

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|---|---|
| 1. What are the advantages of segmentation in 8086? | 3 |
| 2. What is the purpose of Queue in the BIU of 8086? | 2 |
| 3. What are the conditional flags of 8086 microprocessor? | 2 |
| 4. Explain the difference between Jump and CALL instructions. | 2 |
| 5. What is EQU assembler directive and give suitable example. | 3 |
| 6. Write a control word to make all the Ports are input Ports (intel 8255). | 3 |
| 7. What is the difference between procedure and Macros? | 2 |
| 8. Give alternate functions of Port 3 of 8051. | 3 |
| 9. Compare microprocessor and microcontroller. | 3 |
| 10. What are the interrupt resources ? | 2 |

Part B – (Marks : 50)

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|---|---|
| 11. (a) Draw the internal architecture of 8086 microprocessor and explain the functions of BIU and EU. | 5 |
| (b) Explain general purpose registers of 8086. | 5 |
| 12. (a) Write an ALP in 8086 to determine numbers of even elements and number of odd elements in a given array. | 5 |
| (b) Explain all possible assembler directives creates storage for a byte or group of bytes. | 5 |



13. (a) Explain command words/mode words of 8255. 5
(b) Explain different modes of 8255 in detail 5
14. (a) Draw the pin diagram of 8051 microcontroller and explain pin functions in detail. 10
15. (a) Explain how array of LED'S are interfaced to 8086 microprocessor through 8255. 5
(b) Develop an ALP in 8086 to display the LED'S ON and OFF alternatively. 5
16. (a) What are the different modes of 8051 timers/counters and explain one of the timer mode operation with example. 5
(b) Explain interrupts of 8051 microcontroller. 5
17. (a) Discuss memory and I/O interfacing. 4
(b) Explain different modes of operations of intel 8253. 6