

35074-B

M.Sc. DEGREE EXAMINATION, OCTOBER 2015.

THIRD SEMESTER

Physics

Paper IV (B) – ELECTRONIC – I — MICROPROCESSORS AND MICROCONTROLLERS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. What is the purpose of a segment register in real mode operation of the microprocessor?
2. Explain the operation of each program memory addressing mode.
3. Explain the operation of the 80486 cache memory.
4. What are the special registers in 80386 μp .
5. Define hand shaking and explain how to use it with I/O devices.
6. List the line interrupt instructions for the μp .
7. What are the counters in 8051 μc ? Explain.
8. What are the ports in 8051 μc . Briefly explain.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Explain the instruction set of 8086 microprocessor.

Or

10. Explain the addressing modes of 8086 μp .

11. Explain the addressing modes of 80486 μp .

Or

12. Describe the architecture of 80586 μp .

13. How to interface the given ADC with the microprocessor.

Or

14. Explain the working of 8237 DMA controller.

15. What is a microcontroller? What are the hardware features of 8051 μc ?

Or

16. How to interface the given DAC with 8051 μc .

