Reg. No. : | | | | | | | | | | | |

J 3200

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2009.

Fifth Semester

Mechatronics Engineering

EC 1318 — MICROPROCESSORS AND APPLICATIONS

(Regulation 2004)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Why 8085 is called as a 8 bit Microprocessor?

2. What are the different machine cycles?

3. What are the address spaces?

4. What is meant by cycle stealing?

5. Define the term baud rate.

6. How square wave can be generated using 8253 IC?

7. What is the resolution of 8 bit ADC?

8. Define full duplex mode.

9. Draw the basic block diagram of microprocessor based temperature measurement system.

10. What are the applications of microprocessors/microcontrollers in automobiles?

PART B — (5 × 16 = 80 marks)

11. (a) With neat functional block diagram, explain the architecture of 8085 microprocessor. (16)

Or

(b) Explain the instruction set of 8085 with examples. (16)

12. (a) With necessary diagrams. write short notes on the following.

(i) RAM memory interfacing

(ii) ROM memory interfacing with 8085. (8 + 8)

Or

(b) Explain the different data transfer schemes with relevant diagrams. (16)

13. (a) With neat functional block diagram, explain the architecture of the Programmable DMA Controller 8257. (16)

Or

(b) Explain the architecture of the Programmable Interrupt Controller 8259 with neat functional block diagram. (16)

14. (a) Explain the interfacing of keyboard/Display interface 8279 with 8085 processor with diagram. (16)

Or

(b) With relevant diagram explain the digital data transmission using 8251. (16)

15. (a) Explain the microprocessors, based closed loop process control with an example. (16)

Or

(b) With neat interfacing diagram, explain the microprocessor based Stepper motor control in half step mode and full step mode. (16)