VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE

Matunga, Mumbai – 400 019

[Autonomous]

End Semester Examination

Sem & Programme	**IV B. Tech. (Electronics)**	Duration	**03 Hours**
Course Code & Course	**EC0210 Principles of Microprocessor Systems**	Max Marks	**100**
		Date of Exam	**11 May 2012**

Instructions
1. All questions carry equal marks.
2. Figures to the right indicate full marks.
3. If in doubt, make reasonable assumptions, but justify your assumptions.

Q1 A washing machine has an embedded microprocessor control system to drive the tub motor and look after other system parameters. Design a single board microprocessor system with the following specifications to implement this control system: **20**
a) 8085 AH CPU working at an operating frequency of 2.0MHz.
b) 16 K Bytes of EPROM connected in the system, device size is 8K Bytes.
c) 32 K Bytes of SRWM connected in the system, device size is 16 K
d) 3 – eight bit programmable output ports and 2- eight bit programmable input ports connected in the system using 8255A.
Explain the design. Give the Memory and I/O maps in detail.

Q2 a) Explain the following instructions **10**
i) LHLD 1000H   ii) DAA   iii) POP PSW   iv) MOV C, D
b) Discuss the different "transfer of control" type of instructions available in 8085AH with examples of usage. **10**

Q3 a) Explain the different interrupt types. **8**
b) What interrupt types are implemented on 8085AH microprocessor? Explain any one in detail with proper circuit / block diagram. **12**

Q4 a) What is Direct Memory Access (DMA)? Under what circumstances it is advisable to use DMA? Explain different types of DMA transfers. **10**
b) With a neat diagram, interface two numbers of 8237 programmable DMA controllers with 8085AH. Explain the working of the circuit. **10**

Q5 a) With a neat block diagram, explain the organization of 8255A programmable peripheral interface. Highlight the formation of control word. **10**
b) Describe in brief the different modes of working of 8255A. Explain one mode in detail **10**