

**B.E. (Full Time) DEGREE END SEMESTER EXAMINATION, NOV / DEC 2013**  
**PRINTING TECHNOLOGY BRANCH**  
**IV SEMESTER – (REGULATIONS 2004)**

**PT283 – MICROPROCESSOR AND APPLICATIONS**

**Duration: 3 hours**

**Max. Marks: 100**

Answer ALL Questions

**PART A**

(10 X 2 = 20 marks)

1. What are the functions of control signals.
2. Explain the need for stack.
3. How instructions are classified based on its byte size.
4. Define instruction cycle, machine cycle and T-state.
5. Explain the instruction PUSH.
6. Mention the different flags of 8085 microprocessor.
7. Specify crystal frequency required for 8085 to operate 1.2 MHz.
8. What are the different types of interrupts available in 8085 microprocessor?
9. What are the advantages of peripheral I/O?
10. What is interfacing?

**PART B**

(5 X 16 = 80 marks)

11. Draw the block diagram of 8085 architecture and explain the function of each block and various signals.
12. (a) Explain the various types addressing modes of 8085 microprocessors with examples.  
(or)  
(b) What is an instruction set? Explain the various instructions available in 8085 microprocessor to perform arithmetic operations.
13. (a) With a neat sketch explain the timing diagram of instruction OUT A5H.  
(or)  
(b) Draw the flow chart and write an assembly language program to multiply two 8-bits numbers.
14. (a) Draw the hardware to interface individual LEDs to 8085 microprocessor. Write assembly language program to glow one LED at a time and move in cyclic order.  
(or)  
(b) Explain a method of converting a digital signal into an analog signal. Write a program to generate saw-tooth wave form.
15. (a) Draw the architecture of 8255 PPI and explain its features and modes of operation.  
(or)  
(b) Draw the flowchart and write assembly language program to control the traffic at a junction of four roads.