

Registration No. :

--	--	--	--	--	--	--	--	--	--

Total number of printed pages – 2

B. Tech
PCEL 4303

Sixth Semester (Special/Back) Examination – 2013

MICROPROCESSOR AND MICROCONTROLLER

BRANCH : IT

QUESTION CODE : E 377

Full Marks – 70

Time : 3 Hours

Answer Question No. 1 which is compulsory and any five from the rest.

The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10
- (a) How microprocessor distinguishes between Instruction and Data ?
 - (b) What is the number of address line needed to access 32KB of memory in 8085 Microprocessor ?
 - (c) Differentiate between memory mapped I/O and I/O mapped I/O.
 - (d) What is the minimum and maximum value of segment address a segment register can accommodate in 8086 Microprocessor ?
 - (e) Distinguish between minimum and maximum address in 8086 microprocessor.
 - (f) Explain the conflict between stack and bank 1 in 8051 microcontroller.
 - (g) What is the time period if the clock frequency of a Microprocessor is 10MHz ?
 - (h) What is the function of RS 1 and RS 0 bits in 8051 microcontroller ?
 - (i) Explain CALL-RETURN structure with reference to 8085 microprocessor ?
 - (j) How many segments 80386 microprocessor can support ?
2. Draw the memory mapping technique and interfacing circuit to interface 4 KB memory to 8085 microprocessor. Available chips are 2 KB EPROM and 2 KB RAM. Use suitable mapping.

3. (a) Explain the function of direction, Trap and Interrupt Flags in 8086 Microprocessor. 5
(b) What is IVT ? How much memory it takes in 8086 Microprocessor ? Justify. 5
4. (a) Draw the Timing diagram of MOV A, M in 8085 Microprocessor. 5
(b) Explain the Channels and registers of 8257 DMA Controller. Is it possible to change the priority of the channels ? 5
5. (a) Explain the block diagram of 8255 PPI. 5
(b) Write the control word content in I/O mode of 8255. What is the control word content in I/O mode, mode-0 to initialize Port-A as input, Port-B as output and Port-C output ? 5
6. (a) Discuss the internal architecture of 8051 microcontroller. How many I/O ports are there ? 5
(b) Explain the TMOD and TCON registers of 8051 microcontroller. 5
7. (a) Explain the interrupts of 8085 microprocessor. Distinguish between Vectored and non-vectored interrupts. 5
(b) Explain the function of Interrupt Request Register (IRR) in 8259A. What is ICWs and OCWs in 8259A ? 5
8. Write short notes on any **two** of the followings : 5×2
(a) Stack Pointer and Program Counter
(b) Superscalar architecture in Pentium processor
(c) Serial Communication in 8051 microcontroller
(d) HOLD and HLDA.

