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Total Number of Pages: 2

**B.Tech**  
**PCEL4303**

**6<sup>th</sup> Semester Regular / Back Examination 2015-16**  
**MICROPROCESSOR AND MICROCONTROLLER**

**BRANCH: EEE**

**Time: 3 Hours**

**Max Marks: 70**

**Q.CODE: W333**

**Answer Question No.1 which is compulsory and any five from the rest.**  
**The figures in the right hand margin indicate marks.**

**Q1 Answer the following questions: (2 x 10)**

- a) Write the two differences between 8085 and 8086 microprocessor.
- b) What is the role of S0 and S1 pin of 8085 microprocessor?
- c) What is the difference between SJMP, AJMP and LJMP instruction in 8051 microcontroller?
- d) What is the difference between minimum and maximum mode of 8086 microprocessor?
- e) What is the need of 4 memory banks in 80386 microprocessor?
- f) What are the predefined interrupts of 8086 microprocessor?
- g) What is the addressing mode of the following instructions of 8051 microcontroller?
  - i) MOV @R0, A
  - ii) MOVC A, @A+DPTR
- h) Which mode of 8255 PPI is called bidirectional mode and Which port can be configured in this mode?
- i) What is the control register format of 8254 timer?
- j) Explain about the LOCK and DT/R' signals of 8086 microprocessor.

**Q2 a) Explain about the interrupt instructions of 8085 microprocessor. (5)**

**b) Explain about the 8085 flags with the suitable structure of its flag register. (5)**

**Q3 a) Draw and explain the minimum mode read bus cycle of 8086 microprocessor. (5)**

**b) Explain about the PSW register of 8051 microcontroller. Write the instruction to select the register bank3 Of 8051 microcontroller. (5)**

**Q4 Interface two 4KX8 EPROMS and two 4k X 8 RAMs chips with 8086 microprocessor. Select the suitable memory maps. (10)**

**Q5 a)** What is mode-1 of 8255 PPI? Write the mode-1 control word format. What is the control word to configure Port-A input in mode-1 and Port-B output in mode-0 I/O mode? **(5)**

**b)** With suitable block diagram explain about the 8251 USART. **(5)**

**Q6 a)** Write an assembly language program to add a series of decimal bytes using 8086 microprocessor. **(5)**

**b)** Explain about the pins and signals of 80386 microprocessor. **(5)**

**Q7 a)** With suitable diagram explain about the 8086 microprocessor architecture. **(5)**

**b)** Write the addressing mode and find the physical address of the following instructions of 8086 microprocessor. Assume the content of registers are :  
CS=1000H, DS = 1200H, ES = 1501H, SS = 3408H, SI = 2300H, DI = 0900H, BX = 0FFFFH and BP = 1A00H. **(5)**

I) MOV [SI], AL

II) ADD CX, [BP+DI]

III) MOV [2456H], BP

IV) SCASB

V) MOV [DI+08H], SI

**Q8 Write short notes on any two: (5 x 2)**

**a)** DMAC

**b)** 8051 interrupt

**c)** 8086 register organization

**d)** 80386 paging technique