

Registration No. :

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Total number of printed pages – 3

B. Tech  
PCEL 4303

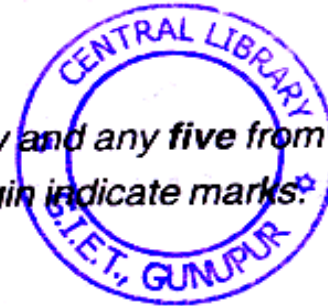
**Sixth Semester Regular Examination – 2015**  
**MICROPROCESSOR AND MICROCONTROLLER**  
**BRANCH(S) : CSE, EEE, ELECTRICAL**

**QUESTION CODE : J 136**

**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) Explain the difference between a JUMP and CALL instruction.
- (b) How to de-multiplex the time multiplexed address/data buses in micro-processor ?
- (c) What is the vector location of RST 6 interrupt in 8085 microprocessor ?
- (d) The size of IVT in 8086 microprocessor is 1KB, justify.
- (e) Calculate the physical address if the content of CS: F000H and IP: FF00H in 8086 microprocessor.
- (f) What is the minimum and maximum value of segment address and offset address in 8086 Microprocessor ?
- (g) What is baud rate ? Explain the function of PCON.7 bit in 8051 microcontroller.

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- (h) Explain the function of PSW.3 and PSW.4 in 8051 microcontroller.
- (i) Explain the procedure to resolve the conflict between stack and bank1 in 8051 microcontroller.
- (j) What is the function of A0 and A1 in 8255 PPI ?
2. (a) Explain the interrupts of 8085 microprocessor. What do you mean by vectored and non-vectored interrupts ? 5
- (b) Draw the Timing diagram of ADD M instruction in 8085 Microprocessor. 5
3. (a) Explain the mode-1 of serial communication in 8051 microcontroller. 5
- (b) Explain the RAM organization in 8051 microcontroller. 5
4. Explain the Maximum mode system configuration of 8086 Microprocessor and list the functions performed by the signals. 10
5. (a) Explain pipelining used in 8086 microprocessor for efficient operation. 5
- (b) Write a program to find out the smallest number in an array of ten numbers. 5
6. (a) Explain mode-0, mode-1 and mode-2 operation of 8255. 5
- (b) What are the registers available in 8257 DMA controller ? Explain the priority schemes available for different channels. 5
7. (a) Compare the addressing modes of 8085 and 8086 microprocessor. 5
- (b) Explain the function of MOD, REG and R/M fields in instruction format of 8086 microprocessor. 5

8. Write short notes on any **two** of the following :

5×2

- (a) Paging mechanism in protected mode of 80386 microprocessor
- (b) Superscalar architecture in Pentium
- (c) IVT in 8086 microprocessor
- (d) Auto re-load mode of timer in 8051 Microcontroller.

