



PAPER ID : 102504

TEC-504

Printed Pages : 2

Paper ID and Roll No. to be filled in your Answer Book

Roll No.

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B. Tech.

(SEM. V) (ODD. SEM.) (REG./BACK) EXAMINATION, 2012-13

**ADVANCE MICROPROCESSOR /
MICROPROCESSORS & CONTROLLERS**

Time : 3 Hours]

[Total Marks : 100

1 Attempt any four questions : 4×5

- (a) List the three major components of microprocessor and explain in detail.
- (b) Explain the purpose of instruction decoder and program counter with suitable examples.
- (c) Explain the addressing mode of 8085 with suitable example.
- (d) Draw and explain the pin diagram of 8086.
- (e) Explain the importance of HOLD and HLDA pin data transfer through DMA.
- (f) Draw the block diagram of 8081 and how it's differ from microprocessor, explain.

2 Attempt any four questions : 4×5

- (a) Calculate the address lines for 8 bytes memory.
- (b) Explain the functional block diagram of 8257 with pin details.
- (c) Write a program to add two binary numbers stored at consecutive memory location, (x and x+1) ignoring the possible overflow.

- (d) Explain the loop and string instruction of 8086 and its addressing mode.
- (e) Explain the interrupt structure of 8259.
- (f) Explain the register bank of 8051 ? Which bits of the PSW are responsible for selection of register banks ?

3 Attempt any two questions : 2×10

- (a) What is assembler ? State its advantages and limitation. Also discuss the different types of assemblers.
- (b) Explain the different addressing mode, timer and register bank of 8051 with suitable example.
- (c) Explain various DMA controllers. Write an 8086 assembly program to perform multiplication of two binary numbers.

4 Attempt any two questions : 2×10

- (a) Why is 8251 called a USART ? Define the mode word register of 8251 for asynchronous mode.
- (b) Discuss crystal frequency versus machine cycle. Write 8051 program to generate a time delay.
- (c) Define the interrupt priority of 8051. Explain the basic operation in keyboard interfacing with 8051.

5 Attempt any two questions : 2×10

- (a) Draw and explain the block diagram of keyboard display controller (8257).
- (b) Draw the block diagram of LCD interfacing with 8051 and discuss the different operation mode of LCD.
- (c) What is the difference between dual core and core to Duo ? Explain the feature of different available advance microprocessors.