

Time: 3 Hours

Max. Marks: 70

Answer any **FIVE** Questions

All Questions carry **Equal** Marks

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1. (a) Write an assembly language program that will examine an ASCII string of 100 characters and replace each decimal digit by a %. The character string starts at STRG. (
- (b) Explain the prefix instruction format of 8086 processor. Discuss how these instructions are useful in string manipulation.
2. (a) Write an ALP in 8086 to multiply two 16-bit numbers and the result is 32-bit.
- (b) Write an ALP in 8086 to add two 8 bit ASCII numbers.
3. (a) What are the registers available in 8257? What are their functions?
- (b) Draw and discuss the status register of 8257.
4. (a) Give the relevant hardware and software for interfacing stepper motor to 8086 based system.
- (b) Explain A/D converter interface to 8086 micro processor.
5. (a) Define mode word register of 8251 for asynchronous mode.
- (b) Define mode word register of 8251 for sync mode.
6. (a) With neat block diagram explain the functions of 8259.
- (b) Explain the programming sequences of PIC along with flow chart explain each command word in detail.
7. (a) Write a program to load accumulator A, DPH and DPL with 30H.
- (b) Write short notes on external interrupts of 8051.
8. (a) What is the difference between Interrupt Request (IRQ) and Fast Interrupt Request (FIQ) in ARM? Explain.
- (b) Compare the CPSR and SPSR registers formats and their purpose in different modes of ARM processor operations.