

Con. 5211-09.

(REVISED COURSE)

SP-7892

Microprocessors & Microcontrollers
(3 Hours)

[Total Marks : 100

9/12/09

2-30 to 5-30

- N.B. :** (1) Question No. 1 is **compulsory**.
 (2) Attempt any **four** questions from the remaining.
 (3) Assume **suitable** address and data if **necessary**.
 (4) **Figures** to the **right** indicate **full** marks.

1. Explain architecture of 8086 micro-processor and its minimum and maximum mode operation in detail. 20
2. (a) Explain architecture of 8051 micro-controller. 10
 (b) Explain addressing modes of 8086 micro-processor. 10
3. (a) Explain jump and call instruction of 8051 micro-controller with example. 10
 (b) Assume P1 is an i/p port connected to a temperature sensor. 10
 Write a program to read the temperature and test it for the value 75.
 According to the test results, place the temperature value into the registers indicated by the following :-
 if T = 75 then A = 75
 if T < 75 then R1 = T
 if T > 75 then R2 = T
4. (a) Explain interface of temperature sensor with 8051 micro-controller. 10
 (b) Assuming that clock pulses are fed into pin T1. Write a program for counter 1 in mode 2 to count the pulses and display the state of TL1 count on P2. 10
5. (a) Explain interfacing of 8051 with 8255 PPI. 10
 (b) Write an assembly language program to check whether a string is palindrome or not. 10
6. (a) Explain register file structure and addressing modes of PIC micro-controller. 15
 (b) Give the difference between procedure and macros. 5
7. Write short notes on any **three** :- 20
 - (a) Mixed language programming in 8086
 - (b) Timer mode register
 - (c) DS 12887 RTC interfacing
 - (d) Interrupts of 8086.