M.Tech 1st Semester Examination  
Advanced Microprocessors & Microcontrollers  

Subject Code: ECL 501

Time Allowed: 03 hours.              Maximum Marks: 100

Before answering the question paper the candidate should ensure that they have been supplied the correct question paper. Complaints in this regard, if any, shall not be entertained after the examination.

Note: Attempt any five questions and all questions carry equal marks.

Section – A

1. a) Draw and explain the Pin Diagram of 8086 Microprocessor with the description of operating modes.   (12)  
b) Briefly discuss addressing modes of 8086 Microprocessor  (8)

2. a) Write an Assembly Language Program for finding smallest number in a data array using 8086 Microprocessor.  (10)  
b) Explain the following Assembler Directives with examples:  (10)  
   i) Assume  
   ii) DB 
   iii) DW  
   iv) END  
   v) EQU

Section – B

Q3. a) Draw and explain the pin configuration & signals of 80486 Microprocessor.  (12)  
b) Write a short note on Register Organizations of 80486 Microprocessor.  (8)

Q4. a) Draw and explain in detail the Architecture of 8051 Microcontroller.  (12)  
b) Write a short note on Programming Model of 8051 Microcontroller.  (8)

Q5. a) Write a program to generate a square wave of 1 KHz using 8051.  (10)  
b) Write a short on the following Special Function Registers:
   i) TCON  
   ii) IP  

Q6. a) Write a detailed note on case study of Washing Machine Control.  (12)  
b) How will you interface ADC with 8051 Microcontroller?  (8)