Reg. No.														

B

DEPARTMENT OF ECE
Faculty of Engineering and Technology, SRM University

SRM Nagar, Kattankulathur – 603203, Kancheepuram District, Tamilnadu

Test: Cycle Test-1 **Date:** 23-08-2017

Course: 15EC301 Microprocessors, Microcontrollers and Interfacing Techniques **Duration:** 2 Periods

Class: V Sem B.Tech (ECE) **Max. Marks:** 50

Mapping of Student Outcomes (SO) with Instructional Objectives (IO) for this course

SO	a	b	c	d	e	f	g	h	i	j	k
	X	X	X	X							
Mapping of IO with SO	1-2	1-5	2-5	1-5							

Instructional Objectives

1.8086 architecture, pin functions and operating modes

2. 8086 instructions and programming

3.8051 architecture, pin functions, memory organization, instruction set and programming

4.Hardware features of 8051 microcontroller such as parallel port, serial port, timer and interrupt

5.Interfacing 8086 / 8051 to memory and various other peripherals and programmable devices.

Student Outcomes

a) **an ability to apply knowledge of mathematics, science, and engineering**

b) **an ability to design and conduct experiments, as well as to analyze and interpret data**

c) **an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability**

d) **an ability to function on multidisciplinary teams**

e) an ability to identify, formulate, and solve engineering problems

f) an understanding of professional and ethical responsibility

g) an ability to communicate effectively

h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context

i) a recognition of the need for, and an ability to engage in life-long learning

j) a knowledge of contemporary issues

k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

PART A (5×4= 20 Marks)

Answer ALL questions

1. List out the functions of following signals of 8086 i)NMI ii)ALE
2. List out the segment registers available in 8086 and explain.
3. Write an ALP for addition of two numbers with carry in 8086.
4. Draw the flag format of 8086 and write any four flag bits.
5. Calculate the physical address for the
   (i) Value in Code segment register 1100H and IP 120H.
   (ii Value in Stack segment register 1210H and SP 114H

PART B (3*10 = 30 Marks)

Answer ANY THREE Questions

6. Explain the addressing modes of 8086 with examples.
7. (i)Write an ALP using 8086 to find out the largest number in a given array (5)
8. (ii) Explain about Interrupts and ISR in detail (5)
9. Explain the logical and conditional branching instruction with examples.
10. Draw and discuss a typical maximum mode operation of 8086 and discuss Memory READ timing diagram in detail.