

**JAYA GROUPS OF INSTITUTION**  
**THIRUNINRAVUR 602024**

**4th Semester – B.E. / B. Tech**  
**Model Exam-III**

Sub. Title : **Microprocessor and Micro controllers**  
Sub. Code : **EC6504**  
Duration : **3 Hours**

Date : **09.04.2015**  
Branch : **CSE**  
Max. Marks: **100**

**Part A - (10 x 2 = 20) Answer all the Questions:**

1. Compare procedures and macros.
2. In 8086 processor the code segment contains 124B and instruction pointer 361C. Find the memory location addressed by the processor.
3. Explain the BHE and LOCK signals of 8086.
4. Compare closely coupled configuration with loosely coupled configuration.
5. What is the difference between two key lock out and N-key roll over modes in 8279?
6. Can an Input port and an output port have the same port address? Justify
7. Give the difference between microprocessor and micro controllers.
8. How do you select the register bank in 8051 micro-controller?
9. Draw and explain the bit pattern of TMOD register.
10. State the interrupt priorities of 8051

**Part B – (5 x 16 = 80) Answer As per the Choice:**

11. (a) (i) Draw the internal block diagram of 8086 microprocessor and explain. (8)  
(ii) Explain any eight assembler directives of 8086 microprocessor. (8)

**Or**

- (b) (i) Give three examples for the following 8086 microprocessor instructions:  
String instructions, process control instruction, program execution transfer instructions  
and Bit manipulation Instruction (12)

- (ii) How does one define and call macro parameters of 8086 microprocessor? (4)

12. (a) Describe the maximum mode signals, bus cycles and maximum mode system configuration of 8086 microprocessor in detail. (16)

**Or**

- (b) With a neat sketch a schematic diagram, explain the functions of various signals of 8086. (16)

13. (a) Discuss the different modes of operation of 8255 parallel communication interface with suitable diagrams. (16)

**Or**

- (b) Draw the block diagram of 8279 keyboard/ Display controller and explain how to interface the Hex Key pad and 7-segment LEDs using 8279. (16)

14. (a) Draw and explain in detail about the architecture of 8051. (16m)

Or

(b) (i) Explain the different addressing modes in 8051 in detail (10m)

(ii) (a) Write an 8051 ALP to find 2's Complement of a number (3m)

(b) Write an 8051 ALP to subtract two 8-bit numbers and exchange digits (3m)

14. (a) With the necessary diagram of control word format, explain the various Operating modes of timer/counters in 8051 microcontroller (16)

Or

(b) Draw the diagram to interface a stepper motor with 8051 microcontroller and explain. also write an 8051 ALP to run the stepper motor in both forward and reverse direction with delay.(16M)