Reg. No. : | | | | | | | | | | |

Question Paper Code: 31455

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Fifth Semester

Electronics and Communication Engineering

01UEC505 – MICROPROCESSORS, MICROCONTROLLERS AND APPLICATIONS

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List the 16-bit registers of 8085 microprocessor.
2. Mention the advantages of using the Direct memory access.
3. What is an assembler directive? Give two examples.
4. What are the different types of interrupts supported in 8086?
5. Give the various modes and applications of 8254 timer.
6. List the operation modes of 8255.
7. What are the features of 8051 microcontroller?
8. How do you select the register bank in 8051 microcontroller?
9. Differentiate microprocessor from microcontroller in system design.
10. How is the microcontroller used for the traffic light control application?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain in detail the addressing modes of 8085 with suitable examples. (16)

Or

(b) Describe in detail with neat diagram the pin configuration of the 8085 processor with its functions. (16)

12. (a) Enumerate about the architecture of 8086 microprocessor with a block diagram and also explain its functions in detail. (16)

Or

(b) Write an assembly language program for 8086 to arrange the set of numbers in ascending order and explain in detail. (16)

13. (a) Explain the 8279 Keyboard and Display controller with a neat sketch. (16)

Or

(b) Draw and explain the block diagram of 8254 Programmable interval timer. Also explain various modes of operation. (16)

14. (a) Explain the architecture of 8051 microcontroller with neat diagram. (16)

Or

(b) Describe the different modes of operation of timers/counters in 8051 with its associated registers. (16)

15. (a) Draw the diagram to interface a stepper motor with 8051 microcontroller and explain. Write an 8051 assembly language program to run the stepper motor in both forward and reverse direction with delay. (16)

Or

(b) Explain how microcontrollers and microprocessors can be used for the washing machine control application. (16)