Question Paper Code : 52449

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Fifth Semester

Electronics and Communication Engineering

EC 2304 – MICROPROCESSORS AND MICROCONTROLLERS

(Regulations 2008)

(Common to PTEC2304 – Microprocessors and Microcontrollers for B.E.
(Part-Time) Fifth Semester – ECE – Regulations 2009)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. Distinguish between Microprocessors and CPU.

2. List any four programs control instruction available in 8086.

3. What is assembler ?

4. What is purpose of LEA instruction in 8086 ?

5. What is key-debouncing ?

6. Give the different types of command words used in 8259A.

7. List the SFRs involved in interrupt programming of 8051 microcontroller.

8. Write an 8051 ALP program Monitor P1.2, if P1.2 = 1 copy 45 H to external RAM address.

9. Define the term step angle with reference to a stepper motor.

10. What do you mean by Real Time Clock ?

<div align="center">PART – B   (5×16=80 Marks)</div>

11. a) i) Discuss the different types of interrupts in 8086.   (8)

       ii) Describe how memory is accessed in 8086 with suitable diagram.   (8)

<div align="center">(OR)</div>

   b) Explain the internal architecture of 8086 microprocessor with neat diagram. (16)

12. a) Briefly explain the addressing modes of 8086 with examples.   (16)

<div align="center">(OR)</div>

   b) i) Briefly explain the arithmetic group of instructions available in 8086 microprocessor.   (8)

       ii) Briefly explain the assembler modes of 8086 with examples.   (8)

13. a) With neat block diagram explain the 8255 Programmable Peripheral Interface and its operating modes.   (16)

<div align="center">(OR)</div>

   b) Explain the 8279 Keyboard/Display controller with neat block diagram.   (16)

14. a) Draw and explain the architecture of 8051 microcontroller.   (16)

<div align="center">(OR)</div>

   b) Write an 8051 ALP program to generate a square wave with an ON time of 3 ms and an OFF time of 10 ms on all pins of port0. Assume an XTAL of 22 MHz. (16)

15. a) 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.   (16)

<div align="center">(OR)</div>

   b) With an example, explain the design of Traffic Light Controller using Microcontroller or Microprocessor.   (16)

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