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Question Paper Code : 42377

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Fourth Semester
Computer Science and Engineering
CS 2252 – MICROPROCESSORS AND MICROCONTROLLERS
(Common to Information Technology)
(Regulations 2008)
(Also Common to PTCS 2252 – Microprocessors and Microcontrollers for B.E.
(Part-Time) Fourth Semester – CSE – Regulations 2009)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. Identify the addressing mode of the following 8085 instruction :
   a) XHTL
   b) DAA.

2. List the 16 bit registers of 8085 microproessor.

3. Define a MACRO.

4. List out all the general purpose registers in 8086 ?

5. In what ways are the standard microprocessor and co-processor differ from each other ?

6. How does the main processor distinguish its instruction from those for the 8087 as its fetches instruction from memory ?

7. What are the modes of operation of Interrupt Controller ?

8. List the four possible modes of operation in 8237 DMA controller.

9. List the features of 8051 microcontroller.

10. What is the purpose of counters in 8051 micro controller ?

PART – B   (5×16=80 Marks)

11. a) i) Briefly explain, the internal architecture and pin diagram of 8085 microprocessor with neat diagrams.   (12)

    ii) Explain the following instruction set with an example (a) PCHL, (b) SPHL, (c) XCHG, (d) DAA.   (4)

                    (OR)

    b) i) Write an ALP to add two 16 bit numbers using 8085 and display its output.   (8)

    ii) Define the addressing modes of 8085 with all its types with example.   (8)

12. a) i) Explain in detail about 8086 architecture with neat diagram.   (10)

    ii) Write an assembly language program display a string.   (6)

                    (OR)

    b) i) Explain various types of Data Transfer Instructions in 8086 ?   (8)

    ii) Explain all the types of 8086 interrupts with suitable block diagram.   (8)

13. a) Explain with the suitable diagram the co-processor configuration of loosely coupled system.   (16)

                    (OR)

    b) Explain the salient features of 8087 NDP and explain how its use enhance the performance of the host processor.   (16)

14. a) 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)

                    (OR)

    b) i) Draw the architectural block diagram of 8259 programmable interrupt controller and explain.   (8)

    ii) Write a program to make the stepper motor to rotate both clockwise and counter clockwise direction.   (8)

15. a) How to interface a 4 × 4 matrix keyboard using 8051 microcontroller and explain how to identify the key process.   (16)

                    (OR)

    b) i) Explain the memory structure of an 8051 micro-controller.   (8)

    ii) Explain with a help of a neat block diagram how DAC is interfaced with 8051 microcontroller.   (8)