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R 3302

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Fifth Semester

(Regulation 2004)

Electronics and Communication Engineering

EC 1303 — MICROPROCESSORS AND ITS APPLICATIONS

(Common to B.E. (Part-Time) Fourth Semester Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are RIM and SIM instructions and where are they used?
2. What are the registers available in 8085 microprocessor?
3. Write the different modes of operation of 8251.
4. Draw the block diagram of RS 232 driver device.
5. How does 8086 generate physical address?
6. List the interrupts present in 8086 with interrupt vector table.
7. List the register banks and SFR of 8051.
8. Write the various interrupts supported by 8051 with priority level and vector address.
9. What is stack pointer and write the stack level of 8051?
10. How do you calculate baud rate for serial communication for 8051?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the 8085 architecture with neat sketch. (10)
(ii) Explain IO devices mapping technique for 8085. (6)

Or

- (b) (i) Discuss the operations of five machines cycles involved in 8085 with neat timing diagram. (10)
(ii) Write assembly program for 8 bit multiplication. (6)
12. (a) (i) Explain the 8251 Timer architecture with different mode by neat sketch. (10)
(ii) Explain general block diagram of ADC and DAC. (6)

Or

- (b) (i) Explain the 8255 PPI architecture with different mode by neat sketch. (10)
(ii) Explain the Standard I2C block diagram. (6)
13. (a) (i) Explain the 8086 architecture with neat sketch. (10)
(ii) Write an assembly program for sorting the array of bytes. (6)

Or

- (b) (i) Discuss about different addressing modes supported by 8086 with suitable example. (8)
(ii) List and explain various arithmetic instructions supported by 8086. (8)
14. (a) Explain each PORT circuitry available in 8051. (16)

Or

- (b) How a program memory and a data memory are interfaced with 8051. (16)

15. (a) (i) Write an assembly language program for serial reception and transmission in interrupt driven mode. (10)
- (ii) Write an assembly language program for interfacing an ADC device. (6)

Or

- (b) (i) Write assembly language program to realize counter operation. (8)
- (ii) How is a keyboard interfaced with 8051? And write a simple program for reading a keyboard. (8)
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