

R09

Code No: 09A60204

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech III Year II Semester Examinations, November/December – 2013

MICRO PROCESSORS AND MICRO CONTROLLERS

(Common to EEE, ECE, EIE, ETM, ECM, ICE)

Time: 3 hours

Max. Marks: 75

Answer any five Questions
All Questions carry equal marks

- 1.a) Discuss the functions of all general purpose registers of 8086. Explain the special function of each register and instruction support for these functions.
b) Describe the function of the following pins in 8086 maximum mode of operation
i) TEST ii) RQ/GT0 and RQ/GT1 iii) QS0 and QS1 iv) s0, s1, s2. [7+8]
- 2.a) Develop an assembly language program to multiply two BCD numbers of 2-digits each.
b) Give the assembly language implementation of the following,
i) DO-WHILE ii) FOR? [8+7]
- 3.a) Write the BSR control word to set bit 3 of port C and also write the BSR control word to reset bit 3 of port C. Introduce a 1 msec delay between set and reset of bit 3 of port C.
b) Explain the pin Diagram of ADC 0808/0809. [8+7]
4. Explain how static RAM are interfaced to 8086. Give necessary interface diagram assuming appropriate signals and memory size. [15]
- 5.a) Draw the circuit of TTL to RS232 and explain the necessity of this interface.
b) Distinguish between synchronous and asynchronous serial data transmission techniques. Discuss the advantages and disadvantages. [7+8]
- 6.a) Write 8051 program to multiply the unsigned number in register R2 by the unsigned number on port 2 and put the result in external RAM locations 1000H (MSB) and 1001H (LSB).
b) Explain the interrupt structure of 8051. [8+7]
- 7.a) Discuss the bit format of IP register of 8051.
b) Write 8051 program to generate 2 kHz square waves on pin P1.0 of port 1 using Timer interrupt. [7+8]
8. With a neat sketch explain the architecture of AVR RISC microcontroller. [15]

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