

## Quiz 2

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI

Hyderabad Campus, Second Semester 2020-2021

CS/ ECE /EEE/ INSTR F241 Microprocessor Programming & Interfacing

Quiz-2 (Open Book)

Date: 01/04/21

Max Marks : 15

Day: Thursday

Time :9.15 – 9.45 AM

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\* Required

To have multiprocessing capabilities of the 8086 microprocessors, which of the following pins should be connected to the ground. 1 point

- ☐ DEN'
- ☐ ALE
- ☐ INTR
- ☒ MN/MX'

Clear selection



Match the following

1 point

- |           |          |
|-----------|----------|
| (a) NMI   | (1) CLD  |
| (b) READY | (2) CALL |
| (c) ES    | (3) OUT  |
| (d) RET   | (4) ISR  |

- ☐ a-2, b-1, c-3, d-4
- ☐ a-1, b-4, c-3, d-2
- ☐ a-3, b-4, c-1, d-2
- ☒ a-4, b-3, c-1, d-2

Clear selection

Match the following

1 point

- | Type of Interrupt  | Physical address of CS |
|--------------------|------------------------|
| (a) NMI            | (1) 00002H             |
| (b) Divide by zero | (2) 00006H             |
| (c) Overflow       | (3) 0000AH             |
| (d) Single step    | (4) 00012H             |

- ☒ a-3, b-1, c-4, d-2
- ☐ a-3, b-2, c-4, d-1
- ☐ a-4, b-3, c-1, d-2
- ☐ a-1, b-2, c-3, d-4

Clear selection



What will be the OP Code for the following instruction?

1 point

Address	Instruction
0139	JMP 11E

- ☐ EB E2
- ☒ EB E3
- ☐ EB E4
- ☐ EB E5
- ☐ None of the above

Clear selection

The Programmable interrupt controller is used to

1 point

- ☐ Handle one interrupt request
- ☒ Handle one or more interrupt requests at a time
- ☐ Handle one or more interrupt requests with a delay
- ☐ Handle no interrupt request

Clear selection



If a 30 MHz Crystal is connected to 8284 A, and with F/C' connected to ground, the (i) EFl output , (ii) Peripheral Clock output and (iii) Clock output for 8086 will be 1 point

- ☐ 30 MHz, 15 MHz and 15 MHz respectively
- ☐ 15 MHz, 10 MHz and 5 MHz respectively
- ☒ 30 MHz, 5 MHz and 10 MHz respectively
- ☐ 30 MHz, 7.5 MHz and 15 MHz respectively
- ☐ Other:

Clear selection

If a processor is working at 5 MHz and the memory access time is 750ns. 1 point  
The number of wait states required will be \_\_\_\_\_, considering an address set-up time of 110ns, data set-up time of 40 ns with a latching and buffer delays of 30ns.

- ☐ 1
- ☒ 2
- ☐ 3
- ☐ 4
- ☐ None of the above

Clear selection



Match the following

1 point

Match the following:

- |                               |                          |
|-------------------------------|--------------------------|
| (a) Size of IP                | (1) External address bus |
| (b) Size of ALU               | (2) Word length          |
| (c) Size of accessible memory | (3) Internal data bus/2  |
| (d) Size of AL                | (4) Internal address bus |

- ☐ a-1, b-2, c-4, d-3
- ☐ a-3, b-2, c-1, d-4
- ☒ a-4, b-2, c-1, d-3
- ☐ a-4, b-1, c-2, d-3

Clear selection

Which of the following interrupt request is independent of IF flag status?

1 point

- ☐ NMI
- ☐ TRAP
- ☐ DIVIDE BY ZERO
- ☒ ALL OF THESE

Clear selection



For an 8086 processor, if the clock is operated at 5 MHz, the 1 machine cycle completes in \_\_\_\_\_ sec. 1 point

- ☐ 200 ns
- ☐ 400 ns
- ☐ 600 ns
- ☒ 800 ns
- ☐ Other:

Clear selection

What will be the OP Code for the following instruction? 1 point

Address	Instruction
0161	JMP 1AA

- ☐ EB 43
- ☐ EB 45
- ☒ EB 47
- ☐ EB 49
- ☐ NONE OF THE ABOVE

Clear selection



What is the duration of the bus cycle in an 8088 based microcomputer if the clock is 8 MHz and two wait states are inserted? 1 point

- ☐ 500 ns
- ☒ 750 ns
- ☐ 250 ns
- ☐ 800 ns

Clear selection

Processor senses an interrupt 1 point

- ☐ Immediately when the interrupt signal occurs
- ☐ After each machine cycle
- ☒ After each instruction cycle
- ☐ After an interval as set by the programmer

Clear selection

List the memory control signals together with their active logic levels that occur when a word of data is written to memory address A000016 in a minimum-mode 8086 microcomputer system. 1 point

- ☒  $BHE' = 0, A0 = 0, WR' = 0, M/IO' = 1, DT/R' = 1,$
- ☐  $BHE' = 1, A0 = 0, WR' = 0, M/IO' = 1, DT/R' = 1,$
- ☐  $BHE' = 0, A0 = 0, WR' = 0, M/IO' = 1, DT/R' = 0$
- ☐  $BHE' = 1, A0 = 0, WR' = 0, M/IO' = 1, DT/R' = 0$

Clear selection



The physical memory address in the vector table corresponding to INT 50 is:- 1 point

- ☒ IP : 000C8h, CS: 000CAh
- ☐ CS : 000C8h, IP: 000CAh
- ☐ IP : 00032h, CS: 00034h
- ☐ CS : 00032h, IP: 00034h

Clear selection

Name \*

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