|  |  |  |  |
| --- | --- | --- | --- |
| EWULogo.png | | **EAST WEST UNIVERSITY** | |
| **Department of Computer Science and Engineering** | |
| **B.Sc. in Computer Science and Engineering Program** | |
| **Mid Term II Examination, Spring 2018** | |
| **Course:** | | **CSE442 – Microprocessor and Microcontroller, Section-1** |  |
| **Instructor:** | | **Md. Nawab Yousuf Ali, PhD, Associate Professor, CSE Department** |  |
| **Full Marks:** | | **30 (15 mark will be counted for final grading)** |  |
| **Time:** | | **1 Hour and 20 Minutes** |  |
| **Note:** There are EIGHT questions, answer ALL of them. Course outcomes (CO), cognitive levels and marks of each question are mentioned at the right margin. | | | |
| 1. | Determine the activities of the following pins in 8288 bus controller when 8086 operated in maximum mode.   1. MRDC 2. AIOWC 3. CEN | | [CO1, C3, 3] |
| 2. | Determine the output of the following table for the bus control function generated by the bus controller 8288.   |  |  |  |  | | --- | --- | --- | --- | |  |  |  | Output | | 0 | 0 | 0 |  | | 1 | 1 | 0 |  | | 1 | 0 | 0 |  | | 0 | 1 | 1 |  | | 0 | 0 | 1 |  | | 1 | 1 | 1 |  | | 1 | 0 | 1 |  | | 0 | 1 | 0 |  | | | [ CO1, C4, 4] |
| 3. | Determine the addresses, data and control inputs, latches and status pins for the following bus buffering of 8088 microprocessor. | | [ CO1, C3, 3] |
|  |  | |  |
| 4. | Design an interface between a memory 27256EPROM and Intel 8088 microprocessor using a NAND gate decoder. Calculate the memory location selected by the EPROM. Determine the functions of the pins for reading data from EPROM chip. | | [CO2, C3, 6] |
| 5. | Design an address multiplexer with only 16 address inputs, where it should contain 32-the numbered required addressing 4GB memory locations. How does it work? | | [ CO2, C3, 5] |
| 6. | Determine the type and the starting and ending vector addresses for the following interrupt vectors.   1. Coprocessor error 2. 1-byte breakpoint 3. Invalid task state segment | | [ CO2, C3, 3] |
| 7. | Consider a software interrupt with BOUND instruction.  Write the outputs for the conditions in the box.  if (AX<(X+(X+1))) ; X is a one byte of a memory location  if (AX>((X+2) +(X+3))) | | [CO2, C3, 3] |
| 8. | Design a circuit that applies an interrupt vector type number 7 in response to INTA. | | [CO2, C3, 3] |

*\*\*\*GOOD LUCK\*\*\**