# **ewuwebEAST WEST UNIVERSITY**

**Department of Computer Science and Engineering**

**Mid Term II Examination, Summer 2017**

**Course: CSE442 Microprocessor and Microcontroller, Section 1**

**Instructor: Md. Nawab Yousuf Ali, PhD, Assoc. Professor, CSE Dept.**

**Full Mark: 30 (15 will be counted)**

# **Time: 1 Hour 15 Minutes**

**Date: July 09, 2017**

Answer all of the following questions.

Mark for each question is written on the right side. **Marks**

**Question 1. 4+4=8**

1. Define the data addressing in base-relative-plus-indexed addressing mode. Explain with diagram. [CO3]
2. Illustrate how data 9601H is popped out from the stack. [CO3]

**Question 2. 4+3=7**

1. Illustrate the pin-outs of 8086 microprocessor. [CO2]
2. What are the functional differences between NMI and INTR pins? [CO2]

**Question 3. 3+4=7**

1. Define the bus connections on the fully-buffered 8086 microprocessor. [CO3]
2. Explain the signals and their functions provided by the 8288 bus controller used with 8086/8088 microprocessor in maximum mode operation. [CO3]

**Question 4. 5**

Design a circuit with 24 pins for a ROM chip and write down the functions of the pins in the diagram. [CO3]

**Question 5. 3**

Write an assembly language program by inserting a value into a register and check whether it is divisible by 2 or not. If divisible put 5 into CX register; if not divisible compare the remainder whether it is greater than or equal to 3; if so save 7 into DX else 13 into CX. [CO2]

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