TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORAMTION TECHNOLOGY

UNIVERSITY EXAMINATION FOR:
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY
(BTIT 13J – Y4 S1)

EIT 4411: MICROPROCESSOR SYSTEMS DESIGN

END OF SEMESTER EXAMINATION
SERIES: AUGUST 2014
TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination
- *Answer Booklet*

This paper consists of **FIVE** questions.
Attempt question **ONE (COMPULSORY)** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **TWO** printed pages

Question One (Compulsory)

a) State the advantages and disadvantages of a microprocessor based system. **(8 marks)**

b) Specify the size of data, address, memory word and memory capacity of 8085 microprocessor. **(4 marks)**

c) Explain the instruction format of the 8085 **(6 marks)**

d) Draw and label the flag in flag resister of 8085 **(4 marks)**

e) What is TRAP interrupt and its significance **(4 marks)**

f) Explain the concept of demultiplexing $AD_0 – AD_7$ line in 8085 **(4 marks)**

Question Two

a) Write an assembly langrage program to evaluate the expression $C = A^2 + B^2$ **(10 marks)**

b) With timing diagrams explain the memory read operation. **(10 marks)**

Question Three

a) Distinguish between 1/0 mapped 1/0 and memory mapped 1/0 **(10 marks)**

b) List the various addressing modes in 8085 microprocessor providing an example in each case. **(10 marks)**

Question Four

a) With examples, explain the FIVE functional instruction set groups for an 8085 **(10 marks)**

b) List and explain the function of any FIVE registers found in a typical microprocessor. **(10 marks)**

Question Five

a) Draw and describe the interfacing of D/A converter interfacing in 8085 microcontroller. **(12 marks)**

b) Explain program memory interfacing in 8051 microcontroller. **(8 marks)**