

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR THE AWARD OF BACHELOR OF SCIENCE IN ELECTRICAL AND ELECTRONIC ENGINEERING**

**EENG 474: MICROPROCESSOR**

**STREAMS: BSC EENG**

**TIME:2 HOURS**

**DAY/DATE: TUESDAY 17/12/2024**

**11.30 A.M. –1.30 P.M**

**INSTRUCTIONS TO CANDIDATES**

- (i) QUESTION ONE (1) IS COMPULSORY.**
- (ii) ANSWER QUESTION ONE (1) AND ANY OTHER TWO**
- (iii) CANDIDATES MUST ANSWER QUESTION ONE (1).**

**QUESTION ONE**

Using a schematic diagram describe functional pin configurations of 8085 (30 Marks)

**QUESTION TWO**

- (a) Using a schematic diagram, briefly describe the Register Structure of the 8085. (10 Marks)
- (b) In an 8086 system, linear decoding is used to connect two 8K x 8 RAM. Control signal  $\overline{BHE}$  and address line A0 are used to select one of the two RAMs. Using a schematic diagram explain how linear decoding is used to connect two 8K x 8 RAM to 8086. (10 Marks)

**QUESTION THREE**

- (a) Sketch a schematic diagram showing the interface of 8255 with 8086 in I/O mapped I/O technique. (10 Marks)

- (b) Using a schematic diagram explain memory interfacing of 8086 to memory devices.  
(10 Marks)

QUESTION FOUR

- (a) Using a schematic diagram explain the interfacing of ADC 0803/0804/0805 to 8086 microprocessors in I/O mapped mode I/O mode at address  $80_H$ . (10 Marks)
- (b) Sketch a schematic timing diagram and explain for memory write machine cycle for 8085 microprocessors. (10 Marks)
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