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DMI-ST. EUGENE UNIVERSITY

ZAMBIA

DEGREE EXAMINATION – DECEMBER 2023

Semester: II 351HE15 MICROPROCESSOR AND ITS APPLICATION

Time: 3:00 Hours

Max. Marks: 100

Answer any FIVE Questions (5 x 20 = 100 Marks)

1. a) Describe the architecture of the Intel 8085 microprocessor. **(10 Marks)**
b) Explain the concept of microprocessor generation and evaluation. **(10 Marks)**
2. a) Explain the concept of assembly language programming for the 8085A microprocessor. **(10 Marks)**
b) Differentiate between hardware and software interrupts in the 8085A microprocessor. **(10 Marks)**
3. a) Provide a simple example of memory interfacing with the Intel 8085A microprocessor, demonstrating how RAM and ROM are connected and accessed. **(10 Marks)**
b) Explain the concept of Direct Memory Access (DMA) and Block Transfer DMA. **(10 Marks)**
4. a) Describe the control word development for the 8257 programmable DMA controller. **(10 Marks)**
b) Describe the control word development for the 8255 parallel port interface (PPI). **(10 Marks)**
5. a) Differentiate between dedicated and reserved memory locations in the Intel 8086 microprocessor. **(10 Marks)**
b) Provide an overview of the instruction set of the Intel 8086 microprocessor. **(10 Marks)**
6. a) Explain the addressing modes of the Intel 8085A microprocessor. **(10 Marks)**
b) Explain the concepts of stack, subroutine, and interrupts in the context of the Intel 8085A microprocessor. **(10 Marks)**

7. a) Explain the interfacing of a Digital-to-Analog Converter (DAC) with the Intel 8085 microprocessor. **(10 Marks)**
- b) Draw and explain the functional block diagram of the 8253 programmable counter/timer. **(10 Marks)**