

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:2150707****Date:20/12/2021****Subject Name:Microprocessor and Interfacing****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Define microprocessor with its components. **03**
 (b) Differentiate: (1) higher level language and low level language **04**
 (2) hardware and software interrupt
 (c) Sketch and explain the internal block diagram of 8085. **07**

- Q.2** (a) Define the terms: Instruction cycle, Machine cycle and T-state. **03**
 (b) Explain different types of system bus. **04**
 (c) Draw and explain internal architecture diagram of 8086 microprocessor. **07**

OR

- (c) Explain various addressing modes of 8085 microprocessor with examples. **07**
Q.3 (a) List different types of instructions in 8085 microprocessor. **03**
 (b) Describe the importance of bus interface unit (BIU) and execution unit (EU) in 8086 microprocessor. **04**
 (c) Write an assembly language program to add two 8 bit numbers stored at address 2050 and address 2051 in 8085 microprocessor. The starting address of the program is taken as 2000. **07**

OR

- Q.3** (a) Describe the format of a flag register of the 8085 microprocessor with its use. **03**
 (b) Explain programmable interrupt controller 8259A. **04**
 (c) Explain stack and subroutine with proper example. **07**
Q.4 (a) Define descriptor table with its use. **03**
 (b) Distinguish between SIM and RIM instructions of 8085 microprocessor. **04**
 (c) Draw and explain block diagram of 8255A Programmable peripheral interface device. **07**

OR

- Q.4** (a) State short note on memory classification. **03**
 (b) Explain the architecture of SUN SPARC microprocessor. **04**
 (c) Write an assembly language program to find maximum of two 8 bit numbers in 8085 microprocessor. **07**
Q.5 (a) List the features of SUN SPARC microprocessor. **03**
 (b) Sketch the logical block diagram of ARM7 processor. **04**
 (c) Draw and explain the architecture of 80386. **07**

OR

- Q.5** (a) List the features of ARM processor. **03**
 (b) Draw the timing diagram of MVI A, 32H instruction of an 8085 microprocessor. **04**
 (c) Explain the architecture of 80286 with a neat block diagram. **07**
