# GUJARAT TECHNOLOGICAL UNIVERSITY
## BE - SEMESTER–VIII (OLD) EXAMINATION – SUMMER 2019

**Subject Code: 181104**                                          **Date: 09/05/2019**

**Subject Name:Advanced Microprocessors**

**Time: 10:30 AM TO 01:00 PM**                              **Total Marks: 70**

**Instructions:**
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

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|---|---|---|---|
| **Q.1** | **(a)** | Explain the difference between 8086 features and its internal architecture. | **07** |
| | **(b)** | Draw and explain 8086 pin diagram. | **07** |
| **Q.2** | **(a)** | Explain 8086 Memory Interfacing and the signals used in it. Show with schematic Explain how the two memory banks are separated? | **07** |
| | **(b)** | Explain Base plus index addressing mode in 8086 microprocessor | **07** |

**OR**

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|---|---|---|---|
| | **(b)** | Explain in brief: I/O interfacing in 8086 | **07** |
| **Q.3** | **(a)** | Write an assembly language program using 8086 instruction to Add block of ten numbers from one location and store to another memory location | **07** |
| | **(b)** | Write an assembly language program using 8086 instruction to arrange an array of five numbers in ascending order. | **07** |

**OR**

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|---|---|---|---|
| **Q.3** | **(a)** | Explain following 8086 instructions with an example. (i) XLAT (ii) LOOPZ (iii) LEA (iv) STOSB | **07** |
| | **(b)** | Explain the special purpose registers of 8086 microprocessor | **07** |
| **Q.4** | **(a)** | Describe the functions of following 8086 pins. (i) HLDA (ii) NMI (iii) READY (iv) CLK | **07** |
| | **(b)** | Explain how the OUT DX,AX instruction operates. | **07** |

**OR**

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|---|---|---|---|
| **Q.4** | **(a)** | Explain stack memory addressing mode in 8086 microprocessor. | **07** |
| | **(b)** | Describe the operation of the IMUL BX,DX,100H instruction. | **07** |
| **Q.5** | **(a)** | Explain the multipurpose registers of 8086 microprocessor | **07** |
| | **(b)** | List the important features of 80186 micro-processor. Explain the function of DMA unit of 80186 microprocessor. | **07** |

**OR**

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|---|---|---|---|
| **Q.5** | **(a)** | Explain Pentium-IV Processors in brief and discuss advancements as compared to previous processors in x86 Family. | **07** |
| | **(b)** | Briefly describe branching and fusion mechanism in Core 2 Duo processor. | **07** |

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