Code No.: ETCS 302	**L**	**T**	**C**
Paper: Microprocessor Systems	**3**	**1**	**4**

INSTRUCTIONS TO PAPER SETTERS: **MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from question no. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

UNIT – I

Computer Number Systems, Codes, and Digital Devices: Computer Number Systems and Codes, Microprocessor Evolution and Types, the 8086 microprocessor family-overview, 8086 internal architecture, introduction to programming the 8086, addressing modes of 8086.

8086 Family Assembly Language Programming: Program Development Steps, Constructing the machine codes for 8086 instructions, writing programs for use with an assembler, assembly language program development tools **[No. of Hrs.: 11]**

UNIT – II

Implementing Standard Program Structures in 8086 Assembly Language: Simple Sequence Programs, Jumps, Flags, and Conditional Jumps, If-Then, if-then-else, and multiple if-then-else programs, while-do programs, while-do programs, repeat-until programs, instruction timing and delay loops

Strings, Procedures, and macros: the 8086 string instructions, writing and using procedures, writing and using assembler macros

8086 Instruction Descriptions and Assembler Directives **[No. of Hrs.: 11]**

UNIT – III

8086 System Connections, Timing, and Troubleshooting: A abasic 8086 microcomputer System, An example Minimum-mode System, the SDK-86, Troubleshooting a simple 8086-based microcomputer, Timing Diagrams

8086 Interrupts and Interrupt Applications: 8086 interrupts and Interrupt Responses, Hardware Interrupt Applications **[No. of Hrs.: 11]**

UNIT – IV

Interfacing 8086 with 8255, 8254, 8259, 8253, 8251, 8259, 8279.

Brief Introduction to Architecture of 80186, 80286, 80386, 80486, 8087 and Pentium architecture. **[No. of Hrs.: 11]**

TEXT BOOKS:

1. D. V. Hall, “Microprocessors and Interfacing”, TMH, 2nd Edition, 1999

REFERENCES BOOKS:

1. Peter Able, “IBM PC Assembly language programming”, PHI, 1994.
2. James. L. Antonaks, “An Introduction to the Intel Family of Microprocessors”, Addison Wesley, 1999.
3. Liu Gibson, “Microprocessor Systems: The 8086/8088 family Architecture, Programming & Design”, PHI, 1999.