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**EC8396 ELECTRONICS AND MICROPROCESSORS**

DETAILED SYLLABUS

**OBJECTIVE:**

- To enable the students to understand the fundamental concepts of Semi-Conductors, Transistors, Rectifiers, Digital Electronics and 8085 Microprocessors

**UNIT I SEMICONDUCTORS AND RECTIFIERS**

Classification of solids based on energy band Theory-Intrinsic Semiconductors-Extrinsic Semiconductors-P type and N type-PN junction-Zener effect-Zener diode characteristics- Half wave and full wave rectifiers -Voltage regulation

**UNIT II TRANSISTORS AND AMPLIFIERS**

Bipolar junction transistor- CB, CE, CC configuration and Characteristics-Biasing circuits- Class A, B and C amplifiers- Field Effect Transistor-Configuration and characteristic of FET amplifier-SCR, Diac, Triac, UJT-Characteristics and simple Applications-Switching Transistors-Concept of feedback Negative Feedback-Application in temperature and motor speed control.

**UNIT III DIGITAL ELECTRONICS**

Binary number system - AND, OR, NOT, NAND, NOR Circuits-Boolean algebra- Exclusive OR gate - Flip Flops-Half and full Adders-Registers-Counters-A/D and D/A conversion.

**UNIT IV 8085 MICROPROCESSOR**

Block diagram of microcomputer-Architecture of 8085-Pin configuration-Instruction set- Addressing modes-Simple programs using arithmetic and logical operations.

**UNIT V INTERFACING AND APPLICATIONS OF MICROPROCESSOR 6**

Basic interfacing concepts - Interfacing of Input and Output devices-Applications of microprocessor Temperature control, Stepper motor control, traffic light control.

**TEXT BOOKS**

1. Milman and Halkias, "Integrated Electronics", Tata McGraw-Hill publishers, 1995.
2. Ramesh Goankar, "Microprocessor Architecture", Programming and Applications with 8085, Wiley Eastern, 1998.

**REFERENCES**

1. Malvino and Leach, "Digital Principles and Applications", Tata McGraw-Hill, 1996
2. Mehta V.K, "Principles of Electronics", S. Chand and Company Ltd., 1994
3. Douglas V.Hall, "Microprocessor and Interfacing", Programming and Hardware, Tata McGraw-Hill, 1999.
4. Salivahanan S, Suresh Kumar N, Vallavaraj A, "Electronic Devices and Circuits" First Edition, Tata McGraw-Hill, 1999.