

AMAE-11 ELECTRONICS AND MICROPROCESSORS

UNIT-1 SEMICONDUCTORS AND RECTIFIERS

- 1.1 Classification of solids based on energy band theory
- 1.2 Intrinsic semiconductors
- 1.3 Extrinsic semiconductors-P type and N type-PN junction
- 1.4 Zenor effect-Zenor diode characteristics
- 1.5 Half wave and full wave rectifiers -Voltage regulation

UNIT-2 TRANSISTORS AND AMPLIFIERS

- 2.1 Bipolar junction transistor
- 2.2 CB, CE, CC configuration and characteristics
- 2.3 Biasing circuits- Class A, B and C amplifiers
- 2.4 Field effect transistor
- 2.5 Configuration and characteristic of FET amplifier
- 2.6 SCR, Diac, Triac,
- 2.7 UJT Characteristics and simple applications-Switching transistors
- 2.8 Concept of feedback
- 2.9 Negative feedback Application in temperature and motor speed control.

UNIT-3 DIGITAL ELECTRONICS

- 3.1 Binary number system
- 3.2 AND, OR, NOT, NAND, NOR circuits-Boolean algebra
- 3.3 Exclusive OR gate, Flip flops-Half and full adders,
- 3.4 Registers-Counters-A/D and D/A conversion.

UNIT-4 8085 MICROPROCESSOR

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

UNIT V INTERFACING AND APPLICATIONS OF MICROPROCESSOR

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

References Books:

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.