

For Syllabus, Question Papers, Notes & many More

EC6464 ELECTRONICS AND MICROPROCESSORS

DETAILED SYLLABUS

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

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.

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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.

OBJECTIVES

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