

# ELECTRICAL, ELECTRONICS & TELECOM ENGINEERING



DHANPAT RAI PUBLICATIONS (P) LTD., 22, Ansari Road, Daryaganj, New Delhi - 110002  
Ph. : 23274073, 23246573 E-mail: [ishkapur@vsnl.com](mailto:ishkapur@vsnl.com) Web Site: [www.dhanpatrai.com](http://www.dhanpatrai.com)

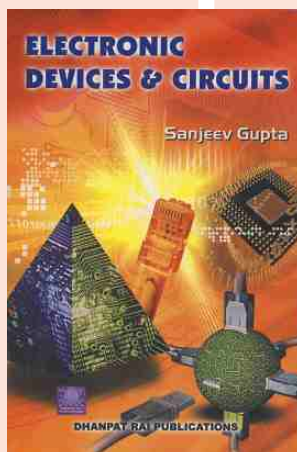
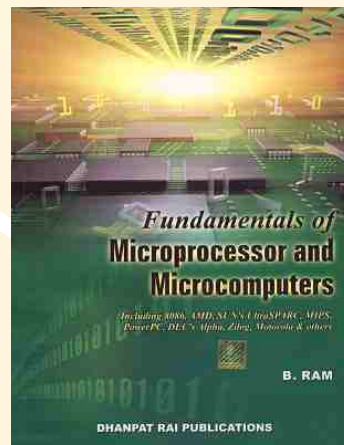
# ELECTRICAL, ELECTRONICS & TELECOM ENGINEERING

## FUNDAMENTALS OF MICROPROCESSORS AND MICROCONTROLLER

B. Ram

ISBN: 978-81-89928-60-5

1. Introduction 2. Number System and Digital Electronics 3. Microprocessor Architecture 4. Instruction Set of Intel 8085 5. Programming of Microprocessors 6. Examples of Assembly Language Programs 7. Peripheral Devices and Their Interfacing 8. Microprocessor-Based Data Acquisition System 9. Microprocessor Applications 10. Microcontrollers 11. Intel 8086 and intel's other 16-Bit Microprocessors 12. Intel's 32-Bit and 64-Bit Microprocessors 13. Some other Microprocessors, Appendices.



## ELECTRONIC DEVICES & CIRCUITS

Sanjeev Gupta

ISBN: 978-81-89928-61-2

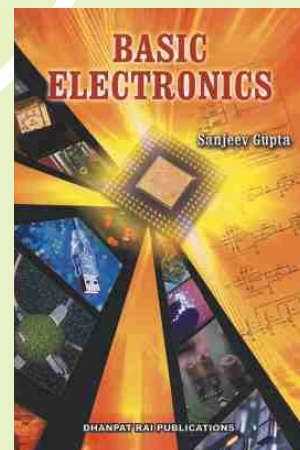
1. Energy Levels and Energy Bands 2. Conduction in Semiconductors 3. Semiconductor Device Physics 4. P-N Junction Diode 5. Special Semiconductor Devices 6. Transistors 7. Field Effect Transistors 8. Rectifying Circuits and D.C. Power Supplies 9. Four-Terminal Active Network 10. Transistor Biasing and Thermal Stabilization 11. Small Signal Amplifiers 12. Feedback in Amplifiers 13. Power Amplifiers 14. Sinusoidal Oscillators 15. Switching Circuits (Multivibrators) 16. Integrated Circuits 17. Operational Amplifiers & IC-555 18. Modulation and Demodulation 19. Communication Systems (Digital & Optical Communication) 20. Basic Power Electronics 21. Digital Electronics 22. Digital Logic Families 23. Memory, Microcomputers and Microprocessor 24. Transducers 25. Electronic Instruments.

## BASIC ELECTRONICS

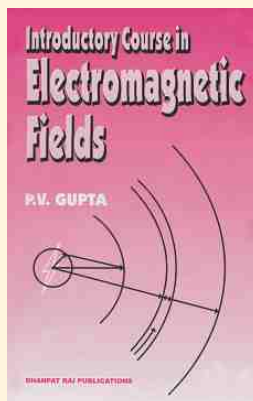
Sanjeev Gupta

ISBN: 978-81-89928-62-9

1. Electronic Components  
2. Basic Electronic circuits  
3. Measuring Instruments  
4. P-N Junction Diode  
5. Integrated Circuits and Operation Amplifiers



# ELECTRICAL, ELECTRONICS & TELECOM ENGINEERING



## INTRODUCTORY COURSE IN ELECTROMAGNETIC FIELDS

P.V. Gupta

ISBN: 978-81-89928-63-6

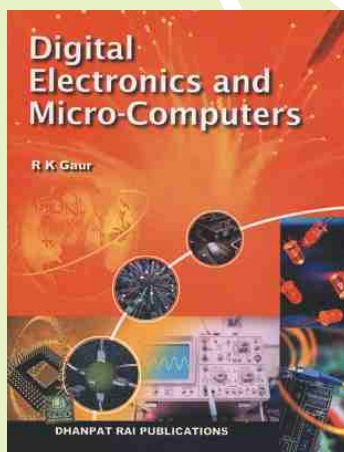
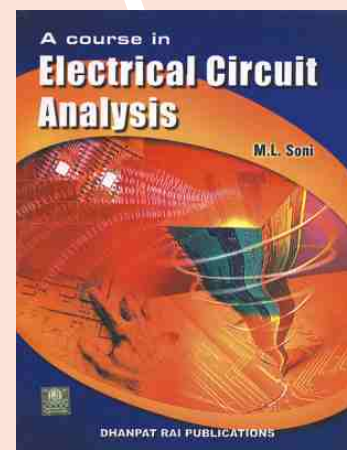
1. Vector Analysis 2. Static Electric Field: Laws and Applications 3. Static Electric Field Problems: Fields of Simple Charge Configurations and Method of Images 4. Materials in Static Electric Field: Conductors, Dielectrics, Capacitors 5. Static Electric Field Problems: Solution by Laplace Equations 6. Static Electric Field Problems: Solutions by Field Mapping 7. Steady Currents 8. Steady Magnetic Field: Laws and Applications 9. Electromagnetic Field: Faraday's Laws and Applications 10. Materials in Magnetic Fields: Magnetic Materials 11. Maxwell's Equations 12. Electromagnetic Waves 13. Revision Problems.

## A COURSE IN ELECTRICAL CIRCUITS ANALYSIS

M.L. Soni

ISBN: 978-81-89928-64-3

1. Introductory 2. Differential Equations - Classical and Laplace Transform Methods of Solution 3. Circuit Elements 4. Network Theorems and Network Reduction Techniques 5. General Methods for Circuit Analysis 6. Responses of RL, RC, RLC Circuits to Deterministic Inputs 7. Analogous Systems 8. Sinusoidal Functions and the Phasor Concept 9. Sinusoidal Steady State Response of Circuits 10. Application of Network Theorems to Complex Impedances 11. Resonance 12. The Three-Phase System 13. Symmetrical Components 14. Non-Sinusoidal Periodic Waves 15. Special Signal Wave Forms 16. Impedance Functions and Network Theorems 17. Network Functions - Poles and Zeros 18. Frequency Characteristics of Network Functions 19. Elements of Reliability 20. Two-Port Networks 21. Impact Power, Power Transfer and Insertion Loss 22. Electrical Wave Filters 23. Transmission Lines at Power Frequencies 24. Transmission Lines at Audio & Radio Frequencies 25. Wave Propagation on Transmission Lines 26. Non-Linear Circuits, Appendices.



## DIGITAL ELECTRONICS AND MICROCOMPUTERS

R.K. Gaur

ISBN: 978-81-89928-65-0

1. Number Systems and Arithmetic 2. Binary Codes 3. Boolean Algebra and Logic Gates 4. Switching Circuits and Logic Families 5. Minimization Techniques 6. Combinational and Arithmetic Logic Circuits 7. Flip-Flops 8. Counters 9. Shift Registers 10. Digital Memories and Systems 11. Multivibrators - timing circuits 12. Digital to Analog (D/A) and Analog to Digital (A/D) Converters 13. Peripherals and Interfacing 14. Microcomputer Fundamentals.

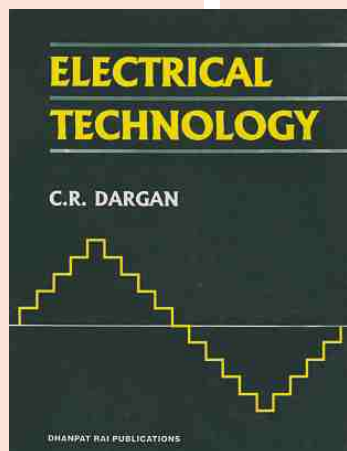
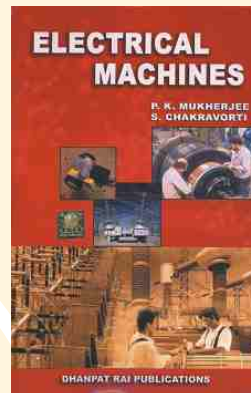
# ELECTRICAL, ELECTRONICS & TELECOM ENGINEERING

## ELECTRICAL MACHINES

P.K. Mukherjee & S. Chakravorty

ISBN: 978-81-89928-66-7

1. Basic Principles of Electrical Machines 2. Constructional Features and Armature Windings of D.C. Machines 3. Electro-Mechanical and Electro-Magnetic Principles of D.C. Machines 4. Operating Characteristics of D.C. Generators 5. Operating Characteristics of D.C. Motors 6. Starting, Speed Control and Braking of D.C. Motors 7. Losses, Efficiency and Testing of D.C. Machines 8. Some Special D.C. Machines 9. Construction of Transformers 10. Principles of Transformer Operation 11. Transformer Connections and Operation 12. Constructional Features and E.M.F./M.M.F. Equations of a Synchronous Machine 13. Phasor Diagrams, Regulation and Performance of Synchronous Generator 14. Phasor Diagram and Performance of Synchronous Motors 15. Parallel Operation and Stability of Synchronous Machines 16. The Synchronous Converter 17. Polyphase Induction Motor : Construction, Theory and Operation 18. Starting, Speed Control and Braking of Polyphase Induction Motors 19. Special Induction Machines 20. The Single-Phase Induction Motor 21. A.C. Commutator Motors 22. Introduction to Generalised Machine Theory.



## ELECTRICAL TECHNOLOGY

C.R. Dargan

ISBN: 978-81-89928-67-4

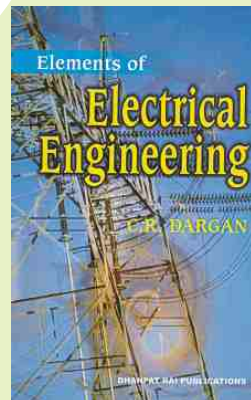
PART-I: 1. Electrostatics 2. Basic Concept of Electricity 3. D.C. Circuits 4. Electromagnetism 5. AC Theory 6. Three Phase System 7. Transformer 8. Generalised Treatment of Electrical Machines 9. DC Generators 10. DC Motors 11. Single Phase Motors 12. Three Phase Induction Motors 13. Batteries 14. Measuring Instruments 15. Electric Heating 16. Safety Measures 17. Synchronous Machines 18. Laboratory Experiments.  
PART - II : 1. Electrostatics 2. Special Machines.

## ELEMENTS OF ELECTRICAL ENGINEERING

C.R. Dargan

ISBN: 978-81-89928-68-1

1. Applications and Advantages of Electricity 2. Basic Concept of Electricity 3. Electromagnetic Inductions 4. Transformers 5. Power Plants 6. Elements of Transmission Lines 7. Distribution System 8. Service Connection 9. Domestic Installations 10. Industrial Wiring 11. Electrical Motors 12. Laboratory Experiments 13. Review Questions (Solved).



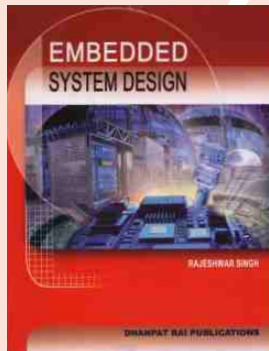
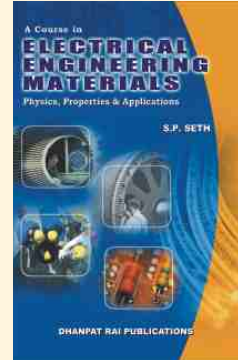
# ELECTRICAL, ELECTRONICS & TELECOM ENGINEERING

## A COURSE IN ELECTRICAL ENGINEERING MATERIALS

S.P. Seth

ISBN: 978-81-89928-69-8

1. Introduction to Engineering Materials 2. Dielectric Properties of Insulators in Static Fields 3. Dielectric Properties of Insulators in Alternating Fields 4. Insulating Materials and their Applications 5. Dielectric Breakdown 6. Magnetic Properties of Materials 7. Conductive Materials 8. Semiconductor Materials and Devices 9. Optical Properties of Materials.



## EMBEDDED SYSTEM DESIGN

Rajeshwar Singh

ISBN: 978-81-89928-00-1

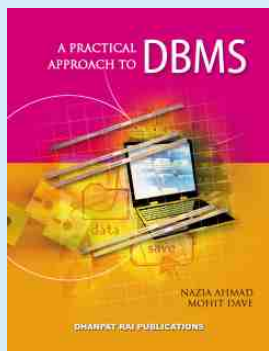
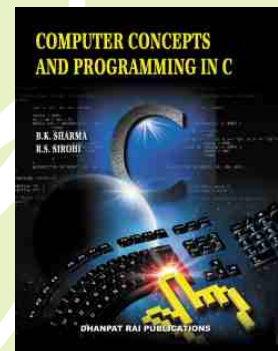
1. An Introduction to Embedded System Design 2. Software 3. Programming with 8051 Microcontrollers 4. Designing Using Microcontrollers 5. PIC Microcontroller Architecture 6. PIC Timer-interrupt-port-uart 7. Practical Lab Experiments, Appendices.

## COMPUTER CONCEPTS AND PROGRAMMING IN C

B.K. Sharma  
R.S. Sirohi

ISBN: 978-81-89928-21-6

1. Introduction to Computer and Operating System 2. Number System 3. Algorithm and Flow Chart 4. Introduction to Computer Language 5. Introduction to C 6. Operators and Expressions 7. Branching and Looping 8. Functions 9. Arrays and Strings 10. Structures and Union 11. Pointers 12. File Handling in C 13. C Preprocessor 14. Standard C Libraries 15. Sorting and Searching 16. Linked List 17. Stacks and Queues; Lab Assignments & Solutions, Index.



## A PRACTICAL APPROACH TO DBMS

Nazia Ahmad & Mohit Dave

ISBN: 978-81-89928-20-9

PART I: DATABASE CONCEPTS REVIEW - 1. Introduction 2. Entity Relationship Model 3. Relational Database and Referential Integrity 4. Normalization 5. SQL Fundamentals. PART II: PRACTICAL ASSIGNMENTS - (Hospital, University, Library, Company, Training and Placement Department, Hostel, Bank, Airline Reservation System, Garment Store, Online Music Shop) PART III: REVISION QUESTIONS - (Subjective Questions, Objective Questions).

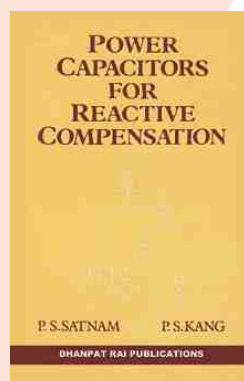
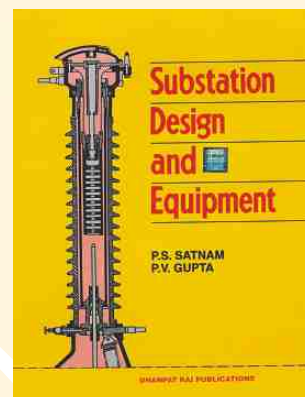
# ELECTRICAL, ELECTRONICS & TELECOM ENGINEERING

## SUBSTATION DESIGN & EQUIPMENT

P.V. Gupta  
P.S. Satnam

ISBN: 978-81-89928-71-1

1. General 2. Bus-Bar Arrangements and Layouts 3. Isolating Switches 4. Voltage and Current Transformers 5. Circuit Breakers 6. Lightning Arresters and Insulation Coordination 7. Power Transformers 8. Control and Relay Panels 9. Shunt Capacitors 10. Earthing 11. Auxiliaries 12. Gas Insulated Substations (G.I.S.) 13. Tables.



## POWER CAPACITORS FOR REACTIVE COMPENSATION P.S. Satnam P.S. Kang

ISBN: 978-81-89928-72-8

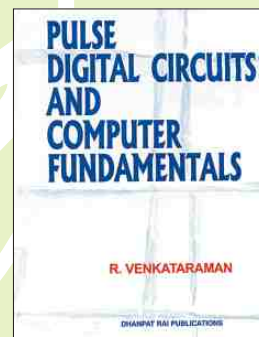
1. Introduction 2. History of Capacitor Development 3. General Theory, Formulae and Functions 4. Manufacturing of Capacitor Units 5. Testing of Capacitors 6. Formation Banks, Neutral Grounding and Fault Calculations 7. Switchgear Protection and Control of Capacitor Banks 8. Installation Operation and Maintenance 9. Shunt Capacitors for Industries 10. Series Capacitors 11. Static Var Compensators 12. Practical Cases.

## PULSE, DIGITAL CIRCUITS & COMPUTER FUNDAMENTALS

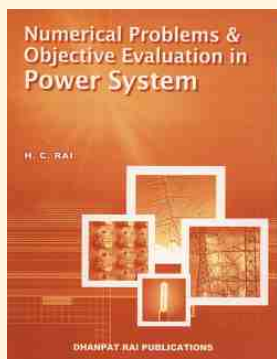
R. Venkataraman

ISBN: 978-81-89928-73-5

PART-I: DIGITAL FUNDAMENTALS : 1. Number Systems and Codes 2. Boolean Algebra 3. Logic Circuits 4. Minimization and Decomposition of Switching Functions 5. Logic Families 6. Combinational Logic Circuits. PART -II: PULSE AND WAVESHAPING CIRCUITS : 7. Pulse Signals and Pulse Response of Linear Circuits 8. Semiconductor Devices in Switching Circuits 9. Clipping and Clamping Circuits 10. Multivibrators 11. Voltage Comparators 12. Negative Resistance Devices and Switching Circuits 13. Sweep Generators 14. Blocking Oscillators 15. Analog Switches 16. Synchronization and Frequency Division 17. Pulse Transformers, Delay Lines and High-Speed Operation. PART-III: SEQUENTIAL LOGIC CIRCUITS : 18. Flip-Flops, Counters and Registers 19. Synchronous Sequential Circuit Design 20. Design of Asynchronous Sequential Circuits. PART-IV: A/D AND D/A CONVERSION : 21. Digital-To-Analog Converters (DACs) 22. Analog to Digital Converters 23. Practical Considerations and Applications PART-V: COMPUTER FUNDAMENTALS : 24. Introduction to Computers 25. Microcomputer/ Microprocessor Architecture 26. Memory 27. Data Representation 28. Peripherals and I/O Devices 29. Flowcharts and Decision Tables 30. Programming 31. System Considerations, Design and Implementation. PART-VI: ANALOG COMPUTERS : 32. Introduction to Analog Computers 33. Analog Computer Components and Related Devices 34. Solving Linear Differential Equations with Constant Co-efficients 35. Time Scaling and Amplitude Scaling 36. Simulation of Transfer Functions 37. Generation of Linear and Non-linear Functions 38. Algebraic, State-Variable and Partial-Differential Equations 39. Check Procedure and Automatic Programming 40. Analog Computer Applications.



# ELECTRICAL, ELECTRONICS & TELECOM ENGINEERING



## NUMERICAL PROBLEMS & OBJECTIVE EVALUATION IN POWER SYSTEM

H.C. Rai

ISBN: 978-81-89928-74-2

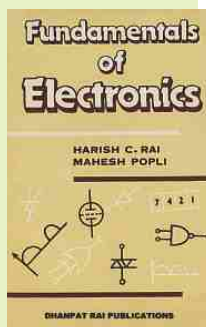
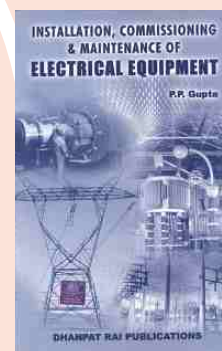
1. Generating Stations
2. Economics of Power Generation
3. Supply Systems
4. Power Factor Improvement
5. Transmission-Line Parameters
6. Performance of Transmission Lines
7. Underground Cables and Corona
8. Mechanical Design and Insulators
9. D.C. and A.C. Distribution Systems
10. Symmetrical Fault Calculations
11. Symmetrical Components
12. Unsymmetrical Fault Calculations
13. Principles of Circuit Interruption
14. Protective Relaying
15. Control of Industrial Electric Drives
16. Electric Braking and Heating of Motor
17. Power System Stability
18. Electric Heating and Welding
19. Thyristor Controlled Drives.

## INSTALLATION, COMMISSIONING & MAINTENANCE OF ELECTRICAL EQUIPMENT

P.P. Gupta

ISBN: 978-81-89928-70-4

1. Tools and Accessories required for Installation & Maintenance Work
2. Safety Precautions & Shock Treatment
3. Maintenance Concepts
4. Transmission and Distribution Lines
5. Underground Cables
6. Power and Distribution Transformer and Transmission Oil Earthing System
7. Substation and Switch Gear
8. Domestic Installation
9. Industrial Installation
10. Motors
11. Heating and Cooling of Electrical Machines
12. Mechanical Features of Electrical Machines
13. Lubrication
14. Batteries
15. Practicals.



## FUNDAMENTALS OF ELECTRONICS

H.C. Rai & M. Popli

ISBN: 978-81-89928-75-9

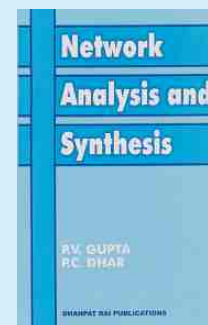
1. Introduction
2. Electronic Components
3. Voltage and Current Sources
4. Electron Tubes
5. Semi-Conductor Physics
6. P-N Junction and Diode
7. Bipolar Transistors
8. Field Effect Transistor and Unijunction Transistor
9. Rectifiers and Power Supplies
10. Feedback in Amplifiers
11. Thyristor — Silicon Controlled Rectifier
12. Oscillators
13. Multivibrators
14. Wave Shaping Circuits
15. Electronic Instruments
16. Analog and Digital Principles.

## NETWORK ANALYSIS AND SYNTHESIS

P.C. Dhar & P.V. Gupta

ISBN: 978-81-89928-76-6

1. Introduction
2. Graph Theory
3. Fourier Series
4. Laplace Transformation
5. Network Theorems
6. Complex Frequency
7. Network Synthesis.



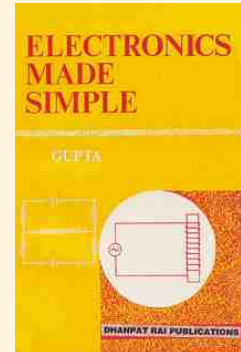
# ELECTRICAL, ELECTRONICS & TELECOM ENGINEERING

## ELECTRONICS MADE SIMPLE

L.M. Gupta

ISBN: 978-81-89928-77-3

1. Introduction 2. Vacuum Tubes 3. Cathode Ray Oscilloscope 4. Gas Tubes 5. Semiconductors and Transistors 6. Audio Amplifiers 7. Video Amplifiers 8. Power Amplifiers 9. Feedback Amplifiers 10. Tuned Radio Frequency Amplifiers 11. Oscillators 12. Modulation 13. Detection 14. Power Supplies 15. Transmitters 16. Wave Propagation 17. Microphones and Loudspeakers 18. Television 19. Assorted Topics 20. Modulation and Detection 21. Multivibrators 22. Industrial Electronics.



## ELEMENTS OF COMPUTER SCIENCE (AMIE)

A.K. Sharma  
R.K. Gaur

ISBN: 978-81-89928-78-0

PART 1 : COMPUTER BASICS 1. Organisation of a Digital Computer 2. Number Systems and Arithmetic 3. Binary Codes 4. Memory and Storage Devices 5. Input-Output Devices 6. Arithmetic Unit and Control PART 2 : ELEMENTS OF PROGRAMMING 7. Introduction to Programming 8. Constants — Variables and Arithmetic Statements 9. Input Output Statements 10. Control Statements 11. DO Statement and Subscripted Variables 12. Functions and Subroutines PART 3 : INTRODUCTORY NUMERICAL ANALYSIS 13. Approximation and Errors 14. Interpolation and Approximation 15. Matrices, Eigen Values and Eigenvectors 16. Numerical Integration 17. Numerical Solution of Ordinary Differential Equations PART 4 : PROGRAMMING LANGUAGES 18. Computer Languages and Operating Systems 19. Programming with Cobol 20. The Data Division 21. Procedure Division 22. Arrays, Subroutines and Structured Programming PART 5 : COMPUTER GRAPHICS 23. Basic Principles of Interactive Computer Graphics 24. Point Plotting and Line Drawing 25. Transformations – Two and Three Dimensions 26. Solid Modelling.