



## TABLE OF CONTENTS

Preface . . . . .	v
Conventions and Symbols . . . . .	ix
A. Data Processing Systems and Techniques . . . . .	1
Data, codes, data processing, types of computers, hardware and software	
B. Mathematics and Logic . . . . .	10
Numbers, algorithms, errors, logic, arithmetical and logical operations	
C. Elements of Digital Representation . . . . .	22
Characters, data structures	
D. Number Representation and Codes . . . . .	32
Fixed point and floating point representation, error checking codes	
E. Data Handling and Checking . . . . .	42
Transfers, conversion, file manipulation, checking techniques	
F. Data Transmission . . . . .	51
Circuits, terminals, control techniques	
G. Program Preparation . . . . .	55
Languages, instructions, software aids, operating systems	
H. Programming Techniques . . . . .	66
Segmentation, subroutines, instruction formats	

J. Computer System Operation . . . . .	75
Serial and parallel, sequential and concurrent, time-sharing, interrupts, multiprogramming, analog techniques, reliability	
K. Basic Hardware Techniques . . . . .	86
Signals, sequential machines, logic elements, operational amplifiers, errors	
L. Control and Arithmetic Equipment . . . . .	98
Logic sub-assemblies, analog techniques	
M. Storage Techniques . . . . .	111
Properties and types of store, registers	
N. Magnetic Stores . . . . .	119
Core and thin film, drum, disc and magnetic tape	
P. Characteristics of Data Carriers . . . . .	127
Data representation, paper tape, punched cards, character recognition	
Q. Peripheral Equipment . . . . .	132
Keyboards, readers, punches, printers, displays	
R. Numerical Control . . . . .	137
Control systems, machine tools, programming	
English-Language Alphabetical Index . . . . .	145

