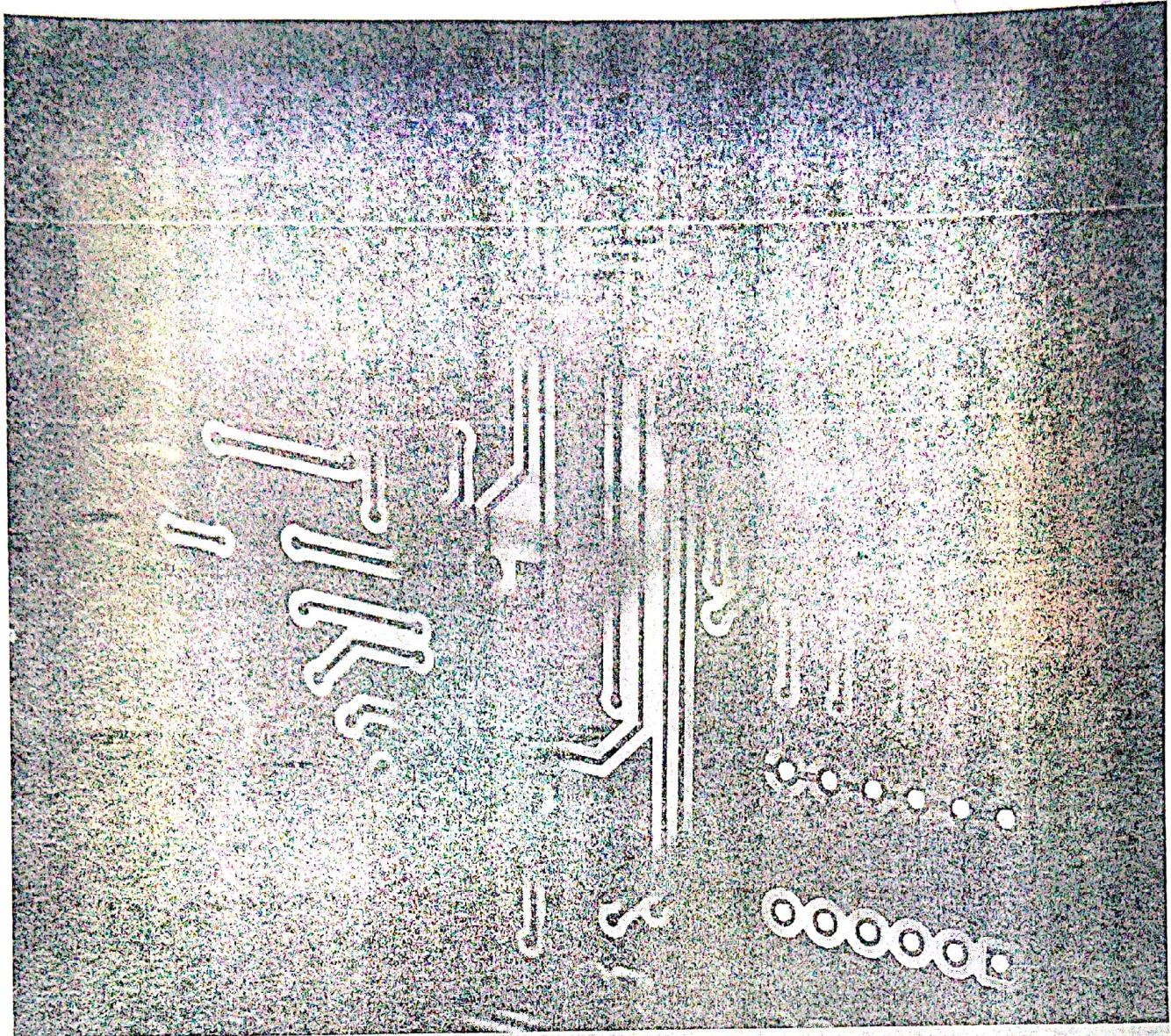


Book 23-24



DIGITAL AND COMMUNICATION ELECTRONICS

DR. VISHAL P. PATIL

ASSIST. PROFESSOR, DEPARTMENT OF PHYSICS, NUTAN MAHAVIDYALAYA, SELU

PRINCIPAL
Nutan Mahavidyalaya
SELU, Dist. Dahanu



“This book is specially designed according to the syllabus of B.Sc.
Third year Physics (CBCS Pattern) , Digital And Communication
Electronics, Swami Ramanand Teerth Marathwada University,
Nanded effective from academic year 2021-22 “

PRINCIPAL
Nutan Mahavidyalaya
SELU, Dis. Parbhani



ACKNOWLEDGEMENT

I offer my deepest gratitude to the authority of Nutan Vidyalaya Shikshan Sanstha, Selu especially, the President, Hon. Dr. S.M. Loya, and the Secretary, Hon. Dr. V.K. Kothekar, Asst. Secretary, Hon. Shri. Jaiprakashji Bihani, Hon. Former Principal of Nutan Mahavidyalaya, Sailu Dr. S.S. Kulkarni, Dr. Mahendra S. Shinde -I/C Principal Nutan Mahavidyalaya, Sailu, Vice Principal Dr. U.C. Rathod and Managing Body of the institute for their constant encouragement and support.

Special vote of thanks to be extended to Dr. N.S. Padmavat -IQAC Co-ordinator at Nutan Mahavidyalaya, Sailu, Dr. B.K. Kumthekar -Head Of Department of Physics, Nutan Mahavidyalaya, Sailu, Dr. M.R. Katkar -Librarian Nutan Mahavidyalaya, Sailu

I express my warm thanks to all my colleagues at Nutan Mahavidyalaya, Sailu.

I am eternally grateful to my mother Mrs. Manda P. Patil for constantly inspiring me to do my best in my life

Mr. Vishal P. Patil

(Asst. Professor)

Department Of Physics

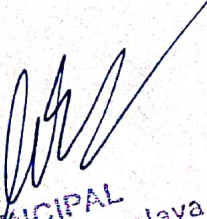
Nutan Mahavidyalaya, Selu

PRINCIPAL
Nutan Mahavidyalaya
SELU, Dist. Parbhani



About Author

“Author has completed his, M.Sc. in Physics (SET), has been working as an Assistant Professor In Physics on clock hour basis from 2016 at department of Physics , Nutan Mahavidyalaya, Sailu. He has been teaching there Digital and Communication Electronics to B.Sc.Third Year Students from last 7 years”


PRINCIPAL
Nutan Mahavidyalaya
SELU, Dist. Parbhani



CONTENT:

UNIT-1:-NUMBER SYSTEMSPage No: 04

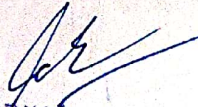
- DECIMAL NUMBERS
- BINARY NUMBERS
- BINARY ARITHMETICS
- ONES COMPLIMENT REPRESENTATION
- TWOS COMPLIMENT REPRESENTATION
- OCTAL NUMBERS
- HEXADECIMAL NUMBERS
- INTERCONVERSION OF NUMBER SYSTEMS
- BINARY CODED DECIMAL (BCD)
- GRAY CODE
- EXCESS-3-CODE

UNIT-2:-LOGIC GATES.....Page No: 46

- AND GATE
- OR GATE
- NOT GATE
- NAND GATE
- NOR GATE
- EX-OR GATE
- EX-NOR GATE
- UNIVERSAL PROPERTIES OF NAND GATE AND NOR GATE
- BOOLEAN OPERATIONS
- LOGIC EXPRESSIONS FOR 2,3 AND 4 INPUTS
- LAWS OF BOOLEAN ALGEBRA
- DE'MORGEN'S THEOREMS
- SOP FORM OF BOOLEAN EXPRESSIONS
- SIMPLIFICATION OF BOOLEAN EXPRESSION USING K-MAPS(UP TO 4 VARIABLES)
- HALF ADDER
- FULL ADDER

UNIT 3:-MODULATION AND DEMODULATION.....Page No: 66

- INTRODUCTION
- TYPES OF MODULATION
- EXPRESSION FOR A.M.VOLTAGE
- A.M.WAVES
- FREQUENCY SPECTRUM OF A.M.WAVES
- POWER OUTPUT IN AM


PRINCIPAL
Nutan Mahavidyalaya
SELU, Dist. ...