AMMV14 MARINE ELECTRONICS

UNIT-1 OPERATION AMPLIFIER THEORY

1.1 Concept of Differential Amplifiers

1.2 Its use in DP AMPS, Linear OP amp circuits.

UNIT-2 DIGITAL CIRCUITS

2.1 Logic Systems and Gates- Binary and BCD codes

2.2 Boolean algebra- Simplifications- Flip- flops- Counters- Registers and multiplexers.

2.3 ITL & CMOS GATES: Digital integrated circuits

2.4 Semiconductor memories- ROM- RAM and PROM.

UNIT-3 CONVERTERS; (A-D AND D- A):

3.1 Analog to Digital and Digital to Analog Converters and their use in Data- Loggers.

3.2 ELECTRONIC INSTRUMENTS Cathode Ray Oscilloscope- digital voltmeters and frequency meters- Multimeters- Vacuum Tube voltmeter and signal Generators

3.3 Q- Meters., Transducers for vibration, pressure, volume, velocity measurement-V-I,I-V,P-I,I-P Converters.

UNIT-4 INDUSTRIAL ELECTRONICS

4.1 Power rectification- silicon control rectifier power control-Filters, RPS

4.2 Photoelectric devices- invertors.

4.3 Satellite communication as applicable to GMDSS, GPS, Inmarsat.

UNIT-5 MICROPROCESSORS

5.1 8085 Architecture- Programming- interfacing and Control of motors

5.2 Temperature/Speed control- Basics and Control mechanism of PLC.

References Books:

1. P.S.Bimbhra, “Power Electronics”, 3rd edition, Khanna Publisher, New Delhi, 2001.
2. Ramesh Gaonkar, “Microprocessors and Microcomputers”, 4th edition, Ulhasthatak, India, 1999.
3. Ray choudhary & shail jain, “Linear Integrated Circuits & Applications”.