

NAME \_\_\_\_\_

ROLLNO \_\_\_\_\_

**2003 ANNA UNIVERSITY**  
**B.E/B.TECH MARINE ENGINEERING**  
**BASIC ELECTRONICS**

MAY 2003

TIME-3HOUR  
MARKS-100

**ANSWER ALL QUESTIONS**

**PART A – (10 x 2=20 marks)**

- 1.How will you find the value of Resistor and tolerances using colour code?
- 2.Explain the term transducer.
- 3.Explain the concept of Active and Passive Transducer.
- 4.Explain the basic requirements of Transducer.
- 5.Mention the advantage of Field Effect Transistor.
- 6.Explain the principle of photoelectric devices.
- 7.Explain the electrical characteristics of Operational Amplifier.
- 8.List the various steps involved in fabrication of IC.
- 9.Explain the need for Modulation.
- 10.Mention the principle of MODEM.

**PARTB—(5x16=80 marks)**

- 11.Draw the Block diagram of a Radio and explain the working principle.
- 12.(a)Explain the working principle of LVDT. Describe the basic principles of Hall effect in semiconductors.  
Or  
(b)Explain the working of Strain gauges. Explain the working principle of any electrical transducer.
- 13.(a)Draw the circuit diagram of a Full Wave rectifier and explain the process of working. Compare Half wave and Full wave Rectifiers.  
Or  
(b)With the help of VI characteristics explain the working principle of a SCR. Explain the working principle of a PN junction diode with the help of its VI characteristics.
- 14.(a)With the help of Truth table explain the working principle of OR, Inverter, NOR and NAND gates.  
Or  
(b)Explain how an operational amplifier can be used for addition, multiplication, division and subtraction.
- 15.(a)Draw the block diagram of a Television and explain the working principle.  
Or  
(b)Explain the various methods of signal transmission paths. Explain Analog and Digital Modulation.