UNIT 4

1) What is transducer ? Write one example of active & passive transducer

2) Define Primary & secondary transducer & give one example of each.

3) Classify each of the following transducers in two different categories:

i) LVDT ii) Strain Gauge

4) Write the Advantages & Disadvantages of L.V.D.T

5) What is piezoelectric effect? Name two piezoelectric materials.

6) Write the parameter measured by:

i) LVDT ii) Piezoelectric Transducer iII) Linear & angular Potentiometer v) Diaphragm

7) Explain the construction & working of LVDT.

8) Explain the construction & working of piezoelectric type transducer

9) Explain the construction & working of capacitive transducer

10) Differentiate between passive and active transducers. Give an example of each

11) Compare and explain static and dynamic characteristics of transducers

12) Explain the classification of transducers.

13) Compare capacitive and inductive transducers

14) Elaborate the applications of inductive transducers.

15) Explain the working of capacitive transducer with neat schematic.

16) Define Piezoelectric principle and explain the working of piezoelectric transducer.

17) What is the principle of Piezoelectric transducer?

18) With a neat schematic explain the working of the following

(i) Mic (ii) Speaker (iii) Sonar (iv) Ultrasonic

19) Explain the working of LED

20) Differentiate LED and LCD

21) What is Thermocouple?

22) Explain with a neat schematic about Thermistor.

23) Explain Geiger Muller Tubes, Hall effect

24) with a neat diagram explain the operation of antenna.

25) Explain in a detailed way about transmitter and receiver with a block diagram

Unit 5

Digital systems

1. Define Minterm and Maxterm.
2. Give the limitations of K-Map.
3. Obtain the canonical SOP form of the function Y(A, B, C, D)=AB+ACD.
4. Simplify the boolean expression using K-Map F= AB’C+A’B’C+A’BC+AB’C’+A’B’C’.
5. Simplify (A+B)(A’C’+C)(B’+AC)’ using Boolean expression
6. Simplify using K-Map F(A,B,C)= Σ m(0,2,3,6,7)
7. Simplify using K-Map F(A,B,C,D)= Σ m(0,2,3,6,7) + d(8,10,11,15)
8. F (w, x, y, z) = ∑m (0, 7, 8, 9, 10, 12)+ ∑d (2, 5, 13)
9. Simplify F= (xy + y’z + xz)x using Boolean expression.

10 Convert (143)10 to binary form.

11. Convert (EC8)16 to binary form.

12. Convert (220)10 to hexadecimal form.

13. What is the necessity of modulation?

14. Define amplitude modulation and draw its waveform.

15 Define frequency modulation and draw its waveform