

UNIT-III
MAGNETIC SENSORS

S.No	Questions	BT	CO	PO
Part – A (Short Answer Questions)				
1	State the main components of overhead line of transmission and Mention their functions.	2	3	1,2
2	Write the types of insulators used in overhead lines.	1	3	1,2
3	What is magneto-resistance?	1	3	1,2
4	Define magneto-resistive sensor.	2	3	1,2
5	Define AMR sensor.	2	3	1,2
6	State the working principle of AMR sensors.	2	3	1,2
7	Define semiconductor magneto resistor.	2	3	1,2
8	State the principle of semiconductor magnetoresistance.	1	3	1,2
9	Define Hall-effect sensor.	1	3	1,2
10	Write the expression for Hall voltage.	2	3	1,2
Part – B (Long Answer Questions)				
11	a) Explain the principles behind magnetic sensing with suitable examples.	3,4	3	3,4,1 1
	b) Discuss various types of magnetic sensors and their applications.	3,4	3	3,4,1 1
12	a) Explain magnetic field measurement techniques.	3,4,5	3	3,4,1 1
	b) Explain the construction and working of magneto-resistive sensors.	3,4	3	1,2
13	a) Explain the anisotropic magneto-resistance (AMR) effect.	3,4	3	1,2
	b) Describe the construction and operation of AMR sensors.	3,4	3	1,2
14	a) Discuss eddy current generation and sensing techniques.	3,4,5	3	3,4,1 1
	b) Explain the applications of eddy current sensors in displacement measurement	3,4,5	3	3,4,1 1
15	a) Explain the construction and working of semiconductor magneto resistors.	3,4,5	3	3,4,1 1
	b) Discuss the magnetoresistance effect in semiconductors.	3,4,5	3	3,4,1 1
16	a) Compare Hall-effect sensors and magneto-resistive sensors.	3,4,5	3	3,4,1 1
	b) Compare AMR sensors and semiconductor magneto resistors	3,4,5	3	3,4,1 1