

(1999-2000)

Assignment.

Short Questions.

1. Define magnetic flux. Write the SI units of magnetic flux density.
2. Which quantity has 'weber' as its unit?
3. Write the dimensions of magnetic flux.
4. Is magnetic flux a scalar / vector? Magnetic flux density?
5. What is electromagnetic induction? State Faradays law of electromagnetic induction.
6. Write the dimensional formula for induced emf?
7. On which of the following emf induced in a coil doesn't depend?
(a) No of turns in the coil (b) resistance (c) rate of change of magnetic field.

- ⑧ State Lenz's law of electromagnetic induction.
- ⑨ Does Lenz law violate the law of conservation of energy?
- ⑩ What do you mean by self-induction?
What is its SI unit?
- ⑪ Write the dimensional formula of coefficient of self induction.
- ⑫ How does self-inductance of a coil (L) depend on the number of turns (N) of the coil?
- ⑬ What is the effect of metallic core on self-inductance?
- ⑭ What is an inductor? Are the connecting wires in a circuit inductors?
- ⑮ What is an ideal inductor? Why inductors are made of copper?
- ⑯ Name the quantity ~~not~~ in electrical circuits which plays the same role as inertia in mechanics.

(17) What is meant by mutual inductance?

(18) What is the SI unit of mutual inductance?

Name two factors on which mutual inductance between a pair of coil depends.

(19) Write the dimensional formula for mutual inductance of two coils.