## **Unit 2: Magnetic Induction**

## TRUE/FALSE

1.	The polarity of the induced voltage is determined by the polarity of the magnetic field in relation to the direction of movement.							
	ANS: T	PTS:	1	REF:	Magnetic Induction			
2.	The important factor	s conce	rning magnetic	inducti	on are a magnetic field, movement, and polarity.			
	ANS: F	PTS:	1	REF:	Moving Magnetic Fields			
3.	If a conductor cuts m	nagnetic	lines of flux at	a rate	of 1 V, a voltage of 1 Wb/s will be induced.			
	ANS: F	PTS:	1	REF:	Determining the Amount of Induced Voltage			
4.	The induced voltage	is prop	ortional to the r	ate of c	hange of current (speed of the cutting action).			
	ANS: T	PTS:	1	REF:	Rise Time of Current in an Inductor			
5.	The exponential curve describes a rate of certain occurrences and is divided into four time constants.							
	ANS: F	PTS:	1	REF:	The Exponential Curve			
6.	The exponential curve can often be found in nature.							
	ANS: T	PTS:	1	REF:	The Exponential Curve			
7.	Inductance is measured in units called the henry and is represented by the letter $H$ .							
	ANS: F	PTS:	1	REF:	Inductance			
8.	The time necessary for current in an inductor to reach its full Ohm's law value, called the R-L time constant, can be computed using the formula $L=H/R$ .							
	ANS: F	PTS:	1	REF:	Inductance			
9.	A device that can be used for spike suppression in either direct- or alternating-current circuits is the metal oxide varistor (MOV).							
	ANS: T	PTS:	1	REF:	Induced Voltage Spikes			
10.	A device that uses the collapsing magnetic field of an inductor to produce a very low voltage is the electric-fence charger.							
	ANS: F	PTS:	1	REF:	Induced Voltage Spikes			
TTTT '	TIDLE CHOICE							

## **MULTIPLE CHOICE**

1. The principle of magnetic \_\_\_\_\_ states that whenever a conductor cuts through magnetic lines of flux, a voltage is induced into the conductor.

	<ul><li>a. induction</li><li>b. conduction</li></ul>				reduction fluctuation			
	ANS: A	PTS:	1	REF:	Magnetic Induction			
2.				flux der c.	will be induced in a conductor: the number of turns asity), and the of the cutting action. intensity direction			
	ANS: A	PTS:	1	REF:	Determining the Amount of Induced Voltage			
3.	In magnetic measure a. 100,000 b. 1,000,000	ement, _	lines of flu	c.	qual to one weber (Wb). 10,000,000 100,000,000			
	ANS: D	PTS:	1	REF:	Determining the Amount of Induced Voltage			
4.	When a resistive load is suddenly connected to a source of direct current, the current will instant							
	a. drop to its minim b. rise to its maxim				become erratic stop flowing			
	ANS: B	PTS:	1	REF:	Rise Time of Current in an Inductor			
5.	Each time constant i a. 20.0 b. 25.0	n an exp	onential curve	c.	1 to% of some value. 33.3 63.2			
	ANS: D	PTS:	1	REF:	The Exponential Curve			
6.	A coil has an inducta induced voltage of o a. david b. henry		one when	c.	nt change of one ampere per second results in an weber paul			
	ANS: B	PTS:	1	REF:	Inductance			
7.	Iron-core inductors of loss in the core mate a. electrical current b. phosphoresis	rial.	e used for high	c.	ncy applications because of loss and hysteresis polarity eddy current			
	ANS: D	PTS:	1	REF:	Inductance			
8.	A(n) occurs when the current flow through an inductor stops, and the current decreases at an exponential rate also.							
	<ul><li>a. voltage jolt</li><li>b. amp spike</li></ul>				wattage jolt voltage spike			
	ANS: D	PTS:	1	REF:	Induced Voltage Spikes			
9.	A device often used to prevent induced voltage spikes when the current flow through an inductor is stopped is the							
	<ul><li>a. closed switch</li><li>b. diode</li></ul>				electrode iron-core inductor			

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ANS: B PTS: 1 REF: Induced Voltage Spikes

10. A(n) \_\_\_\_ diode has a forward voltage drop of approximately 0.7 V regardless of the current flowing through it.

a. MOV c. oxide b. iron d. silicon

ANS: D PTS: 1 REF: Induced Voltage Spikes