

ٹیسٹ سے پہلے کم از کم تین بار درود شریف پڑھ لیں۔

Student Name:		Roll No:	Date: / /
سوچ بدلیں، معاشرہ بدلیں		Class 2nd Year	Ch#13
T- Marks - 40		Subject: Physics	Time: 45 - M
		Obtained Marks:	
Objective Type			
Q#1	Encircle the Correct Option		10X1=10

1. Lenz law is actually the law of conservation of

- a Charge b Mass c Energy d Momentum

2. Which convert the mechanical energy into electric energy

- a Transformer b Galvanometer c Ac generator d DC motor

3. An inductor may store energy in its

- a Electric field b Magnetic field c Coils d Neighboring circuit

4. The ratio of average induced emf to rate of change of current in a coil is called .

- a Self inductance b Mutual inductance c Self inductance d Mutual induction

5. One henry is equal to

- a VSA b VSA² c VSA⁻¹ d None

6. The frequency of AC in Pakistan is

- a 30Hz b 40Hz c 50Hz d 100Hz

7. Which one is correct relation for transformer is.

- a $N_s/N_p = V_p/V_s$ b $I_s/I_p = V_s/V_p$ c $N_s/N_p = I_p/I_s$ d $I_s/I_p = V_p/V_s$

8. Maximum value of induced emf in the coil of AC generator is.

- a NBA/W b NwAB c BA d NIAB

9. The power loss in transformer due to.

- a Eddy current b Magnetic field c Hysteresis d Both A and C

10. Energy density of inductor is

- a $B^2/2\mu_0$ b $\mu_0/2B$ c $M/2B^2$ d $B^2/2\mu_0$

Q # 2

Short Questions

10 x 2 = 20

1. A plane conducting loop is located in a uniform magnetic field that is directed along the x-axis for what orientation of the loop is the flux a maximum? For what orientation is the flux minimum?
2. Describe the change in the magnetic field inside a solenoid carrying a steady current. if (a) the length of the solenoid is doubled but the number of turns remains the same and (b) the number of turn is doubled but the length remain the same?
3. Its given instant proton moves in the positive x direction in a region where there is magnetic field in the negative z direction what is the direction of the magnetic force .will the proton continue to move in the positive x direction .explain.
4. If a charged particle moves in a straight line through some region of space.can you say that the magnetic field in the region is zero?
5. How can you use a magnetic field to separate isotope of chemical element?
6. What is a voltmeter/multi meter?
7. Write a note cathode ray oscilloscope?
8. What is magnetic flux and flux density?
9. State ampere law and determination of flux density ?
10. Write the use of CRO?

Q # 3

Long Questions

2 X 5 = 10

- 1 Find the value of the magnetic field that will cause a maximum force of 7.0×10^{-3} N on a 20.0cm straight wire carrying current of 10.0A.
- 2 Calculate the formula for force on moving charge placed in a magnetic field.