

Name: _____						
Subject: Physics		Class: 10 th	Time: 80 minutes	Total Marks:	40	
Chapter No.		MJDexpert.com			Obtained marks	

Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts (a and b) of Question 3. Cutting and removal of any content is strictly prohibited.

Objective-Section

Q. 1 Encircle the correct answer. (10x1=10)

1. The study of the magnetic effect of current is called:
(A) Magnetism (B) Electromagnetism (C) Electricity (D) Electric Capacity
2. A temporary magnet which causes current to flow through a coil is:
(A) Magnetic field (B) Electromagnet (C) Electric intensity (D) Magnet
3. MRI helps in diagnosing the disorder of:
(A) Brain (B) Eye (C) Ear (D) Kidney
4. In a D.C. motor, a coil can rotate in the field by an angle of:
(A) 180° (B) 90° (C) 360° (D) 45°
5. Which device is based on the principle of electromagnetism:
(A) Electric motor (B) T.V. (C) C.D. player (D) Mobile phone
6. Michael Faraday belonged to:
(A) England (B) USA (C) Russia (D) Saudia Arabia
7. A device which converts mechanical energy into electrical energy:
(A) Transformer (B) D.C. motor (C) A.C. generator (D) Electroscope
8. Transformer is used to change the value of:
(A) Charge (B) Energy (C) Power (D) Voltage
9. ____ in a transformer, the voltage across the secondary coil is denoted by:
(A) V₂ (B) V₁ (C) V (D) V_p
10. In an ideal transformer, which quantity remains constant:
(A) Voltage (B) Power (C) Current (D) Voltage and Current

Subjective-Section

Q.2 Write short answers of any ten of the following questions: (10x2=20)

- I. Define electromagnet.
- II. State the right-hand rule for a straight conductor.
- III. What is magnetic resonance imaging?
- IV. State Fleming's left-hand rule.
- V. On what principle does a D.C. motor work?
- VI. Define electromagnetic induction.
- VII. Write down any two factors which affect induced emf.
- VIII. Define Lenz's law.
- IX. State the principle of an A.C. generator.
- X. What is meant by a transformer? Write its principle.
- XI. What is the difference between a step-up and step-down transformer?
- XII. What is a relay? How does it work?

Q.No.3 Long Question:

(5+5=10)

- a. Define and explain mutual induction.
- b. What is a transformer? How does it work?