**Gulistan Academy**

Physics (10th) Max.Marks = 40

Chapter No.15 (Electromagnetism) Pass Marks = 20

**Time = 1 Hour** Teacher Name: M.Maaz

**Question No.1: Give short answers. (212 = 24)**

1. *State the rule by which the direction of the lines of force of the magnetic field around a current-carrying conductor can be determined?*
2. *State the Flaming’s left hand rule.*
3. *Describe a simple experiment to demonstrate that a changing magnetic field can induce* ***e.m.f.*** *in a circuit.*
4. *What are the factors that affect the magnitude of the* ***e.m.f****. induced in a circuit by a changing magnetic field?*
5. *State and shortly explain the Lenz’s Law.*
6. *What do you understand by the term Mutual Induction? Also define its units.*
7. *What is the difference between a generator and a motor?*
8. *What reverse the direction of electric current in the armature coil of D.C. motor?*
9. *A transformer is needed to convert a mains* ***240 V*** *supply into a* ***12 V*** *supply. If there are* ***2000 turns*** *on the primary coil, then find the number of turns on the secondary coil.*
10. *Lenz’s law is just according to the law of conservation of energy. Explain.*
11. *Define Electro Magnetic Induction.*

**Question No.2: (5+3 = 8)**

1. *What is A.C. generator? Write its working principle. Draw a labelled diagram to illustrate the structure and working of A.C. generator. Also shortly explain its working.*
2. *A step-down transformer has a turns ratio of* ***1: 100****. An ac voltage of amplitude* ***170 V*** *is applied to the primary. If the current in the primary is* ***1.0 mA****, what is the current in the secondary?*

**Question No.3: (5+3 = 8)**

1. *What is an electric motor? Explain the working principle of D.C. motor.*
2. *A power station generates* ***500 MW*** *of electrical power which is fed to a transmission line. What current would flow in the transmission line if the input voltage is* ***250 kV****?*

***Best of luck***