ST. JOSEPH STUDY CENTRE

12th STD: Mid Term Test – 2 **PHYSICS** **Time: 2 Hrs / Total Marks: 50**

I. Answer any 5 of the following questions: [5 x 2 = 10]

1. State Lenz's law of Electromagnetic Induction.
2. Define RMS value of alternating current
3. Define Q factor of RLC series circuit.
4. What are Electromagnetic waves?
5. Why Electromagnetic waves are non – mechanical?
6. What are Fraunhofer lines? How are they useful in the identification of elements present in the Sun?

II. Answer any 5 of the following questions: [5 x 3 = 15]

7. Explain how lenz's law is in accordance with law of conservation of energy.
8. Explain the energy losses in a Transformer.
9. Write down the advantages and disadvantages of AC over DC.
10. Write the 4 Maxwell's equation in integral form.
11. Discuss the Hertz experiment.
12. Discuss the properties of EM waves.

III Answer any 5 of the following questions: [5 x 5 = 25]

13. What is Eddy Current? How Eddy Current can be minimized? Write down the applications of Eddy Current.
14. Explain how emf can be induced by changing orientation of the coil with respect to the Magnetic field.
15. Discuss the case of an AC circuit containing a Resistor, Inductor and a Capacitor. Find out the Impedance of the cicuit.
16. Explain about Electromagnetic spectrum [i.e. from radio waves to Gamma Waves]

17. Give any 2 uses of each Waves of Electromagnetic Spectrum.

18. Explain the types of emission spectrum.

----------ALL THE BEST----------

Test should be written under the supervision of your parents and get the answer paper signed from them.

No corrections should be made after the test timings. We expect your honesty.

Test Papers have to be submitted after the completion of all the 4 tests.

Submission Date of Test Papers: 1st December, 2nd December, 3rd December Timings: 9 AM – 12.30 PM / 5 PM- 7 PM