



ST. JOSEPH STUDY CENTRE

12th STD: Mid Term Test-1

PHYSICS

Timing: 1 Hr 30 mins / Total Marks: 50

I. Answer any 5 of the following questions:

[5 x 2 = 10]

1. Define Electric field.
2. What is meant by 'Corona Discharge'?
3. What is superconductivity and what are superconductors?
4. Why Nichrome is used as heating element in heating devices?
5. What is Terrestrial Magnetism?
6. State Coulomb's Inverse square law of Magnetism.

II. Answer any 5 of the following questions:

[5 x 3 = 15]

7. Derive an expression for electrostatic potential due to a point charge.
8. Obtain an expression for energy stored in the parallel plate capacitor.
9. Write the differences between drift velocity and mobility.
10. Explain seebeck effect. Write down the applications of seebeck effect.
11. Write the properties of Magnet field lines.
12. Write the Differences between uniform and non-uniform magnetic field.

III. Answer any 5 of the following questions:

[5 x 5 = 25]

13. By using Gauss law, obtain the expression for electric field due to an infinitely long charged wire.
14. Derive an expression for resultant capacitance, when capacitors are connected in series and in parallel.
15. Find out the effective resistance of resistors connected in series and parallel.
16. How will you compare the emf of two cells by using a potentiometer?
17. Derive an expression for magnetic field at a point along the axial line of the magnetic dipole.
18. Derive an expression for Potential energy of a bar magnet in a uniform magnetic field.

-----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: 27th July, 28th July, 29th July

Timings: 9.30 AM – 1.00 PM / 5 PM- 8 PM