ST.JOSEPH'S COLLEGE OF ARTS & SCIENCE, (AUTONOMOUS) CUDDALORE-1.

II B.Sc PHYSICS

SUBJECT TITLE : ELECTRICITY & MAGNETISM
SUBJECT CODE: PH404S
INCHARGE: H.JUDE LEONARD (S-I)/ S.SANGEETHA MARGREAT (S-II)

I -TWO MARKS

1. State coulomb's law.

2. Define Electrical Image.

3. State Faraday's law of Electrolysis.

4. Write a note on Circuit breakers.

5. What is Susceptibility?

6. What is Retentivity?

7. Define Electric potential.

8. Define Transport number.

9. Note on Electrical Fuses

10. What do you mean by Intensity of Magnetism?

11. What is Permeability?

12. What is Terrestrial magnetism?

13. Define Electric Dipole.

14. Uses of thermo electric diagrams.

15. Define Time constant.

16. Define RMS value.

II -FIVE MARKS

1. Expression for the resistance of a cylindrical capacitor.

2. Expression for Transport number of ions.

3. Growth and Decay of current in a circuit containing Resistance & Inductor.

   / (10 Marks)

4. Growth and Decay of current in a circuit containing Resistance & Capacitor.

   / (10 Marks)

5. Derive the expression for current containing RLC Circuit. (10 Marks)

6. Explain the principle & working of single phase induction motor.

7. Derive the expression for capacitance for spherical capacitors.

8. Explain terrestrial magnetism.

9. Explain the construction & working of Ballistic Galvanometer.

10. Determination of Thomson Coefficient.

11. Define permeability & Susceptibility. Establish the relation between them.

12. Explain the I-H curve of magnetic material.

13. Write a note on Electrical Images.

14. How will you find the declination of the earth's magnetic field at a place.

15. Describe Dip circle.

16. Write a note on wattles current/ circuit breakers.

III -TEN MARKS

1. Energy of a charged capacitor/ Electric field at a point due to a dipole.

2. Construction & Working of a Transformer & explain its power losses.

3. Explain B-H curve of magnetic material.

4. Derive the expression for spherical capacitors/ cylindrical capacitors

5. Explain the working of Three phase – AC motors.

6. Explain the Intensity of magnetization & also obtain the relation $B=\mu(H+I)$.