SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
M.Sc. END SEMESTER EXAMINATIONS NOVEMBER - 2022
SEMESTER - II
20PPHCT2006 - Electromagnetic Theory and Plasma Physics

Total Duration : 2 Hrs 30 Mins.   Total Marks : 60

Section A

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Explain about molecular polarizability and electrical susceptibility?

2. Briefly describe about magnetic induction and magnetic fieldin macroscopic media?

3. Derive an expression for Maxwells displacement current?

4. Describe linear and Circular Polarization?

5. Explain about electron-plasma oscillation?

6. Write about magnetic-hydrodynamic waves?

7. Describe reflection and refraction in Plane?

8. State the Faradays law of induction, Poynting's theorem and Lorentz force?

Section B

Part A

Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

9. Explain Polarization, displacement vectors and Boundary conditions?

10. Describe the applications of Amperes law?

11. Explain and derive the Maxwell's equations?

12. Justify propagation of plane waves in non-conducting media?

Part B

Compulsory question $(1 \times 10 = 10$ Marks)

13. Predict about Plasma confinement in a magnetic field?

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