

Roll.No.

22UPHCT5009

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.

B.Sc.Physics - END SEMESTER EXAMINATIONS - NOVEMBER 2025

SEMESTER -V

22UPHCT5009- Electromagnetism

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. What is power factor in AC circuits? Explain wattless current.
2. What are Eddy currents? Mention few uses of Eddy currents.
3. Obtain the expression for emf in a conducting rod moving through a uniform magnetic field.
4. What are the characteristic and need for three phase AC?
5. Explain displacement current.
6. Discuss about co-efficient of coupling in mutual inductance.
7. Compare series, shunt and compound wound dynamos.
8. Explain Poynting's theorem.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Discuss AC resonant circuit containing L, C and R in series.
10. Describe the experimental determination of self-inductance by Rayleigh's method.
11. Explain the working of single phase AC induction motor.
12. Discuss the principle, construction and working of DC dynamo.
13. Explain Hertz experiment for production and determination of electromagnetic waves.
