SR&BGNR GOVERNMENT ARTS & SCIENCE COLLEGE (A), KHAMMAM
ELECTROMAGNETIC THEORY
IMP QUESTIONS
Unit -I

1. State and prove Gauss's theorem in electrostatics. Derive an expression for the electric field due to an infinitely long charge distribution.
2. Use gauss's law to find the electric intensity at a point near the infinite plane sheet of charge.
3. State and prove gauss's law in electrostatics. Apply it to calculate the electric intensity due to uniformly charged sphere at points (i) outside the sphere (ii) at the surface of the sphere and (iii) inside the sphere
4. Define electric potential. Obtain an expression for potential due to a point charge
5. Define electric potential. Derive an expression for potential due to a charged spherical conductor

Unit - II

6. State and explain biot savart law. Calculate the magnetic induction at a point on the axis passing through the centre of circular wire carrying current.
7. Explain Ampere's law. Obtain an expression for magnetic field due to a current carrying solenoid
8. Give the construction and theory of a ballistic galvanometer.

Unit -III

9. Write maxwell's equations in differential forms and derive maxwell's equations in integral forms.
10. Derive continuity equation

Unit - IV

11. Hertz experiment for production of electromagnetic waves
12. Derive Maxwell's equations in the dielectric medium.
13. Derive wave equation for E and B

SHORT QUESTIONS

14. Gauss law in differential form
15. Relation between V and E
16. Torque on a current carrying loop
17. force on current carrying conductor in magnetic field
18. Force acting on two parallel conductors
19. Derive Ampere's law from biot savart law
20. State faraday's and lenz's law
21. Self inductance of solenoid
22. Self inductance and mutual inductance
23. Electromagnetic wave in free space
24. Electromagnetic waves are transverse in nature
25. Velocity of electromagnetic waves