

09/05/18
(AN)

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12. a) Derive an expression for energy stored in the electrostatic field of a section of a coaxial cable. (13)

(OR)

- b) Derive the electric field boundary condition, when a wave travels between two different dielectrics medium. (13)

13. a) State Biot-Savart's law and derive the expressions for magnetic field intensity, of a straight current carrying conductor.

(OR)

- b) Derive the magnetic field intensity of a circular current carrying conductor.

14. a) Derive the inductance of toroid and solenoid.

(OR)

- b) i) Derive the equation which relates magnetization and permeability. (8)

- ii) Explain the different types of magnetic materials. (5)

15. a) Derive the Poynting theorem equation from Maxwell's curl equation.

(OR)

- b) Derive the Maxwell's equations in Differential form and integral form.

PART - C

(1×15=15 Marks)

16. a) Apply Lorentz force equation, to derive the force on a differential current element.

(OR)

- b) Illustrate with an example, to apply Poisson's and Laplace equation.